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COCAINE-DOSAGE AND COCAINE-ADDICTION.

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The sad story, in a recent *Record*, of the Russian surgeon's suicide from sorrow or remorse due to his belief that a patient had died from an overdose of cocaine, points a moral, the import of which demands more than a passing notice.

No advent in the therapeutic arena during the last decade has been attended with such varied and extensive claims for favor as cocaine. Its marvelous effect in ophthalmic surgery aroused a spirit of experimental research in other directions which has added largely to its well-proven power for good; but, as has been well observed, a potency for good implies a potency for harm, and the risk impends of its ardent advocates being carried by over-enthusiasm beyond the limit of a safe regard for the welfare of their patients or themselves, that may imperil an otherwise well-founded success.

Surely it is, in the writer's opinion, full time to draw the line; to re-voice a warning as to the use and abuse of this valued,

but, at times, toxic drug, lest the roll of alarming, dangerous and fatal effects from its ignorant or incautious use be sadly extended, and a reaction ensue that, by creating distrust within and without the profession, will damage its good repute and hinder its use in cases where it would be almost certain of serving us well. And the need of this seems all the more called for in view of opinions expressed, during the past year, in certain quarters, affirming the harmless character of cocaine —opinions which, I am convinced, are at variance with well accredited facts, and should not be allowed to pass uncontradicted.

Cocaine seems to have secured for itself a more than usual share of attention aside from the professional press. One metropolitan daily, in particular has again and, again given its columns to a discussion of the topic, and in a somewhat lengthy article not long ago, an "eminent but unnamed specialist"—Dr. Francke H. Bosworth—was reported as saying "there is not a well-authenticated case on record, as yet, where cocaine has effected injury."

In view of cases cited in this paper, and others elsewhere recorded, such a statement is no longer tenable, and any conclusion based thereon as to the harmless nature of cocaine is misleading and incorrect.

And the evidence herewith presented weighs even more heavily against an assertion by Dr. Wm. A. Hammond, at a recent meeting of the New York Neurological Society, in the course of his "Remarks on Cocaine and the so-called Cocaine Habit," when, after telling his taking of eighteen grains at a subcutaneous dose, he asserted "he did not believe any dose that could be taken was dangerous!" What might be the outcome of such an opinion put in practice? The Russian sur-

geon's error of judgment, fatal to his patient and himself, was largely due to his reliance on the asserted use by other surgeons of large doses without ill-effect. Might not a like result follow an incautious dependence on Dr. Hammond's disbelief in the toxic power of cocaine? The *Record* well said of Prof. Kolomnin's case: "The experience, though so sad, may not be without its lesson"; and puts a very pertinent query as to whether "there are not other surgeons who could report very serious, if not fatal, results from injudiciously or ignorantly using too large a dose of cocaine.

Fifty cases herewith noted attest a power in this drug on some patients that warrants caution with all.

"A young woman, aged twenty-three, was sent to Prof. Kolomnin, and found to have a large ulcer of the rectum, which was diagnosticated to be of tuberculous nature. He decided to scrape and cauterize the lesion and to use cocaine anæsthesia during the operation.

"In order to produce anæsthesia, he had fifty grammes of a five per cent. solution of hydrochlorate of cocaine prepared; of this, thirty grammes were brought into use, containing exactly twenty-four Russian grains of the salt, or twenty-three English grains—the Russian grain is exactly one-sixteenth of a gramme—six grains being injected at a time into the rectum. After the third of these injections, it was found on examination that the part was still sensitive. A speculum was then introduced, the ulcer dabbed with a dry sponge, and then the fourth injection given, making twenty-four grains in all. After this the parts were tolerably anæsthetic. The ulcer was scraped, and a tampon saturated with oil inserted. The pulse was then accelerated. During the operation the patient groaned, so that even the twenty-four grains had not produced complete anæsthesia.

"After the operation, Kolomnin went round his ward, and in three-quarters of an hour a message was sent to him that the patient was very low. He found the pulse very weak, the face and hands cyanotic, and the respiration labored. He considered that she was in a toxic state, and used every means to bring her round, Prof. Sushchiniski being also invited to a consultation. Faradization, artificial respiration, hypodermic injection of ether, administration of ammonia, tracheotomy for the inhalation of oxygen, stimulating and nutrient enemata—all were tried, but without success. Kolomnin had no doubt that death was due to cocaine."

Dr. W. H. Long, U. S. Marine Hospital Service, reports in the *American Lancet* the case of a man aged thirty-three, to whose larynx he applied, three times, a four per cent. solution of cocaine. Prompt relief was given, but three and one-half hours later the patient was found unconscious; breathing, labored; respirations, twenty; pulse, ninety; general condition, one of profound anæsthesia. Diagnosis: cocaine poisoning. Several doses of whiskey were given subcutaneously. In half an hour, consciousness was partially restored, then gradual and full improvement, save a feeling of great exhaustion.

Four days later cocaine was again used. Thinking the former toxic effect due to swallowing some of the solution, and probably absorption by larynx, extra precaution was taken to have it expelled and the pharynx well rinsed. Two applications of a two per cent. solution were made. Relief was again complete, but three and one-half hours after the patient was in the same condition as before, except that the anæthesia was not so profound. Frequent injections of whiskey were again used with partial success—he could swallow and answer questions—but, soon after, he suddenly ceased to breathe. The

heart beat a short time longer. All efforts at resuscitation failed. The probable immediate cause of death was paralysis of the respiratory center due to cocaine.

Dr. F. M. Thomas, Leonardsville, Kansas, reported to Prof. R. Ogden Doremus, as follows:

"Friday morning, October 23d, 1885, I was called to see Mrs. ——, aged thirty-nine, whom the messenger reported as dying. I found her unconscious; breathing heavily and irregularly, pulse thirty-five, intermittent; temperature normal; left pupil largely dilated, right natural; right arm and lower limbs motionless; face spasmodically drawn upwards toward the dilated eye.

"Spasmodic action of the left arm and upper part of the body came on regularly at intervals of a few minutes, during which she clutched the bed-clothing, and seemed to be trying to vomit. Twice during my attendance she ejected small portions of the previous evening's meal. Salivation was excessive; she retained a dorsal decubitus; would not lie on either side. Heart seemed almost exhausted.

"I saw her at 5 A.M., and was with her nearly all the time till she expired, apparently completely exhausted, about 8:30 A.M."

On inquiry, the Doctor learned that Mrs. —— had been freely using a four per cent. solution of cocaine, for toothache, due to several much-decayed left upper molars. His diagnosis was cocaine poisoning.

Dr. Knabe, of Berlin, records the case of a girl aged eleven, who was given four to twelve drops—the exact amount was not determined—of a four per cent. solution of cocaine, by injection over the deltoid, to remedy frequent fainting fits—she having cardiac degeneration, *a sequela* scarlatina. In less than forty seconds the girl took a deep breath, became deadly

pale, and dropped unconscious. One minute later she was dead.

In the Australasian *Medical Gazette*, August, 1886, Dr. W. E. Ramsden Wood reports this case. "A. B. suffered from neuralgia, due to a defective tooth. Extraction being impracticable, cocaine—amount not stated—of a ten per cent. solution was injected, with prompt relief, lasting some hours. Next day, the pain being very severe, the patient sent to his chemist for a similar solution, and three minims were injected, but without the desired effect; he returned it to the chemist and asked him to make it stronger, which he did, making it twenty per cent. He brought this to me, but omitted to tell me that the solution was double the strength of that which I had used. He told me that three minims had not given him the relief that he had experienced from mine; I therefore gave him four minims of what I belived to be a ten per cent. solution, and within five minutes he became restless and inclined to vomit; he then began to feel a sensation of pins and needles in the left hand and arm, which rapidly extended to the right side. This was speedily followed by contraction and rigidity of the fingers, arms and legs; there was also a tendency to opisthotonos. His pulse became extremely rapid and feeble, his face livid, and the muscles of his mouth and cheeks strongly contracted. His respirations were short and convulsive, his feet and hands very shortly became cold, and a profuse perspiration broke out on his head and face.

I first gave him half a tumbler of brandy, followed at short intervals by drachm doses of spiritus ammon. aromatic, and applied strong mustard over the cardiac region, and used friction to the upper and lower extremities; at the same time I let him inhale a few drops of chloroform to try and check the

spasmodic contractions. After continuing these remedies for nearly an hour, the pulse began to improve, the color to return to the face, and the rigidity of the muscles lessened, but returned immediately after I stopped the friction. At the end of two hours he improved more rapidly, but felt somewhat drowsy, and it was not until about four or five hours that all the symptoms had subsided.

C. S. Kilham, L.R.C.P., Sheffield, England, read before the Sheffield Medico-Chirurgical Society, November 25th, 1886, this history of a case: On November 9th, 1886, at twelve noon, John B—— accidentally took four and four-fifths grains of cocaine hydrochlorate in the form of solution. At 12:30 he was seized with severe cramps in the stomach, nausea, throbbing and feeling of bursting in his head, failure of eyesight, loss of use of his legs, incoherence of speech and confusion of ideas, and drowsiness, but could always answer questions when aroused. No delirium; appeared as if drunk, and got quite helpless. Brandy was given to him and he vomited after it, but only the remains of food. About 12:50 he commenced sweating most profusely, shirt, etc., being soaked through, perspiration streaming down his face and body, and his head steaming. Pupils were normal and equal. No loss of taste. The sweating lasted some time and was succeeded by very severe prostration, shivering and feeling of impending death. At intervals the patient had severe cramps in the stomach, with retching and vomiting of a quantity of clear mucus, which relieved the pain. About 1:15 P. M. the pulse became intermittent—missing every fifth beat. This was accompanied by cyanosis of the face and intense feeling of

suffocation over the cardiac region. Relief was afforded by sinapisms. The pulse varied from eighty to eighty-six, never more, and became gradually regular. About 1:45 P. M. he began to have cramps in the legs and feet—especially on dorsal surface of right foot—and tingling and numbness in both hands. Later on the pupils became dilated. The vomiting and cramps ceased about 4 P. M. —unless food were taken—but the drowsiness, throbbing of head and prostration continued up to 6 P. M., when the patient began to get warm and feel relieved. The improvement continued, and he could be moved at 8:30 P. M. There was great weakness, with swimming of head all night.

Next day there was still weakness, continual vomiting, a dry, leathery feeling in the mouth, with loss of taste, partial loss of power in the legs, and tingling and numbness of the fingers, especially of the right hand. These symptoms commenced nearly thirty-six hours after taking the cocaine, and most of them disappeared in twenty-four hours. The loss of power in the legs lasted three days, and the tingling and numbness of fingers longer. He was not able to write a letter until the sixth day, as he could not feel the pen between his fingers before.

An emetic was at first given, with sinapisms over the heart and stomach; afterwards, warmth and stimulants—principally compound spirit of ammonia.

The patient was in the habit of taking one-fourth grain of cocaine for neuralgia of the stomach. The most remarkable symptoms were the severe sweating, the intense prostration and the intermittent pulse.

Dr. Geo. Elder, Nottingham, Eng., in the *Lancet*, October 30th, 1886, says: "Preliminary to opening a superficial abscess, twelve minims of a freshly prepared ten per cent. solution were injected under the skin; three or four minutes after, syncope supervened, followed by twitchings of the face, falling of the jaw, coldness of the body, clammy perspiration, lividity of the face—in fact, all the appearances of imminent death. The patient was several minutes in recovering consciousness, and during the remainder of the day felt very prostrate." Dr. E. Adds: "Several similar occurrences have been noted, showing that cocaine is not so innocuous as has been generally supposed."

James Leslie Callaghan, in the London *Lancet*, June 12th, 1886, reports as follows: "A patient of mine who was suffering from toothache resulting from a hollow tooth, applied some of a four per cent. solution of hydrochlorate of cocaine to the tooth and gums. He did not spit it out, but, according to his story, swallowed from twenty to thirty drops. Within half an hour he was seized with a feeling of faintness and giddiness, then an attack of palpitation of the heart came on, and he complained of tingling and numbness, dryness of the throat, and a sensation of heat and flushings moving over the body, but especially on the spine. Suddenly a rash like scarlatina made its appearance over the body; vision was somewhat dimmed. I immediately gave him a strong dose of mustard and warm water, which did not cause emesis. I then administered twenty grains of sulphate of zinc, but without effect; it was only by repeating the dose that vomiting took place. The patient was relieved for a few minutes and seemed brighter, but the

symptoms soon returned, and he felt so weak that he thought he was dying. I held some strong ammonia to his nostrils, but he said he could not smell it. I kept walking him about, but his legs tottered so much I had to support him. He constantly felt a desire to have the use of his bowels and bladder. The pulse became fast, weak and intermittent; the mind remained clear."

Dr. Fred'k S. Williams, of Puyallup, Washington Territory, reports in the *Medical Record*, September 25th, 1886, this case: A lady on whom he wished to operate for a lacerated cervix, had a pledget of cotton saturated with a twenty per cent. solution of cocaine placed over the cervix, and four minims of the same solution injected on each side of the wound. "In about a minute and a half the patient began to speak as with an effort, saying 'I feel so faint,' and gasped as if struggling for breath. She was immediately placed on her back, with head lowered, and told to breathe deeply. She obeyed for a few times, then recommenced her gasping, which she continued for about a minute. Then followed shallow breathing for four or five minutes, when she began to rally a little, and the breathing became gradually stronger but irregular.

"Her pulse at first was very rapid, irregular and weak, then became, during most of the time of the shallow breathing, almost imperceptible, gradually returning with the approaching normal respiration.

"Consciousness at once was dulled, and during the period of the shallow respirations was completely lost.

"At the end of about ten minutes she rallied, pulse, respiration and consciousness becoming normal."

Myerhausen relates the case of a "girl, twelve years old, in whom two drops of a two per cent. solution were instilled in the conjunctiva four times, at intervals of five to eight minutes. In all, only a little over one-tenth of a grain was administered, of which certainly one-half must have been lost through the tears. Immediately after the operation, the child commenced to complain of headache, which became more and more severe until it was almost unbearable. Nausea and vomiting persisted through the entire day. The patient was greatly prostrated; stumbled in walking; speech was almost entirely destroyed, as though the tongue were paralyzed. These symptoms of poisoning lasted all through the night, in which no rest was possible, and gradually disappeared towards the evening of the following day."

Dr. Robert Newman, New York city, kindly sent me this report: Patient, a female, aged thirty-seven, was treated for chronic cystitis, by washing out and dilating the bladder daily. To allay the pain, fifteen minims of a four per cent. solution of cocaine were injected per urethra. This, increasing the drug a little each day, was used three times. After the third injection, while the cystic pain was allayed, a severe headache ensued, which persisted for several hours. On the fourth day, having increased the cocaine to twenty-five minims, "while still washing out the bladder with *hot* water, a piercing pain in left temple occurred, running round the back of the head in a circle, and feeling as if the top of the head would split open. Pupils dilated; expression anxious; restlessness marked. More than a week passed before all toxic traces ended. There can be no doubt cocaine caused the trouble, and the symptoms were alarming."

In the London *Lancet*, 1886, is recorded the case of a female, aged twenty-five, who had a watery solution containing fifteen centigrammes of hydrochlorate of cocaine injected into the nose. In twenty minutes giddiness, weakness and impaired vision ensued. A little later she was semi-comatose, with slight dyspnœa and pulse uncountable. These symptoms disappeared in three hours under friction and internal stimulation.

Dr. Schilling in the *Pharmaceutical Journal*, records a case in which the injection of six drops of a two per cent. solution into the gums of a woman, aged twenty-six, to prevent pain of extracting a molar, was followed by toxic symptoms, of which facial rigidity, deafness, blindness, complete loss of motion and sensation, and unconsciousness for a half-hour, were the chief. They subsided after inhaling nitrite of amyl.

Dr. Heyman reports a case in which the effects following the use of cocaine closely resemble that noted by Myerhausen. The patient, a boy, had a solution of cocaine liberally applied to his pharynx and larynx. Toxic symptoms soon set in. He was apathetic with speech and walking disturbed. Pulse and respiration increased. Temperature rose to 100¾. Five hours after, patient could not walk. Symptoms persisted ten hours.

Dr. Schwarzbach, Australasian *Medical Gazette*, January, 1886, reports the case of a lady who used cocaine, locally, for pain in the eye. She suddenly became very ill; stupor, pallor, slow pulse and cold perspiration. Under wine and strong coffee, recovered in a few hours.

G. Bockl observed alarming effects follow an injection of six drops of a two per cent. solution into the gums. In ten

minutes patient became unconscious, with gaze fixed, vision defective and delirium. Nitrite of amyl gave relief.

Dr. Landesburg, New York city, used two grains subcutaneously, as an experiment, on himself. In less than two minutes he felt his heart beating violently and blood rushing to his head, quickly followed by fullness and roaring in the latter, and noises in the ears. Thought was confused, volition impaired. Great restlessness, and numbness with twitchings were felt in toes and fingers. Nausea and epigastric pressure marked. Face very pale and covered with cold sweat. Pulse feeble, eyes sunken, pupils dilated, vision dim. In thirty minutes, took to bed with nausea, headache and general prostration. Recovery followed a night's sound sleep.

Drs. Bardet and Meyer, assistants of Dujardin-Beaumetz, anæsthetizing, for experiment, their own skin, observed, half an hour after the injections, dilated pupils and comatose symptoms. One of them fell in a state of vertigo, with pallid face and extreme heart weakness. These toxic symptoms followed hypodermic doses, never exceeding one-third of a grain.

Dr. Ziem, of Dantzic, in 1885, reported a case in which a solution applied to the eye caused pallor and embarrassed breathing, and said that, up to that time, seventeen cases had been cited in ophthalmological literature, in which toxic effects followed the use of cocaine. In three, by injection; fourteen applied to the eye. Pallor, giddiness, dyspnœa, malaise, apathy, great prostration, tottering gait, difficulty of speech, mental confusion and extraordinary restlessness were symptoms noted in both strong and feeble men and women.

Dr. G. W. Kennicott, in the Chicago MEDICAL JOURNAL AND EXAMINER, October 20th, 1885, reports: A young woman,

aged twenty-five, of good constitution, had been using, per medical advice, a two per cent. solution of cocaine for hay-fever. The supply becoming exhausted, she procured two 5 grain vials of the muriate, full strength, and applied two-thirds of the contents of one bottle to both nostrils with a small glass insufflator. In twenty minutes she became dizzy, vision dark, and a sinking sensation occurred, with great weakness. In half an hour she was semi-comatose, pulse scarcely countable, so rapid and weak; pupils widely dilated; speech and swallowing difficut; dyspnœa; nausea; throat dry; teeth chattered, and she shivered with cold. Later, drowsy; eyes closed; face muscles affected; weakness extreme, she could not support her head. She recovered in three hours under brandy, ammonia, digitalis, heat to epigastrium, and heat and friction to extremities.

Dr. Geo. J. Engelman, in the *Medical Review*, June 13th 1885, records these cases: Mrs. C., aged twenty-eight, in fair health, at 5 P. M. took one-sixth of a grain by the mouth; one hour later this dose was repeated, and soon after she felt a tingling in her fingers, hands and wrists, with discomfort and oppression about the chest, and vomiting the moment she turned in bed. At 7:30 she took a third dose, same amount, and in fifteen minutes was excessively restless, great difficulty of breathing, tight band-like feeling about chest, faint and felt as if dying. At 8 o'clock still faint, was dyspnæic, and tingling had extended to feet and legs. At 8:15 tingling gave way to numbness, beginning in hands and extending to feet; "became perfectly still, as if breathing her last;" quite numb and stiff; thumbs adducted; pulse feeble, frequent, irregular and intermittent.

These toxic symptoms subsided after one-sixth of a grain of morphia, hypodermically.

Mrs. F., aged thirty-five, enciente, took forty drops of a four per cent. solution to relieve nausea. Immediately she felt a complete numbness along the tongue and throat; to test the feeling she bit her tongue, and found it perfectly numb. She became weak, perfectly relaxed, with oppression about the heart, and felt as if dying. In twenty minutes the entire body became cold and numb. Pulse feeble and very rapid. Heart felt as if constricted by an iron band, and "hammered loudly at a fearful rate." Symptoms persisted several hours.

Dr. Litten, at a meeting of the Berlin Medical Society, November 4th, 1885, in a debate on the action of this drug, cautions against its too general use. He said that among other ill-effects known to occur after an injection are attacks of mania, sometimes very violent, which may prove dangerous; and he asserted the various toxic effects, in some individuals, reach such a high degree that actual danger to life seems to threaten the patient. The three cases next cited are of interest in this regard.

Dr. Geo. T. Stevens, *Medical Record*, January 17th, 1885, reports that he injected four minims of three and one-half per cent. solution under the conjunctiva of a strong man. In eighteen minutes "violent convulsions set in, attended with desperate struggles to breathe. The face became livid, consciousness was lost, and the patient became uncontrollable. After struggling in an easy-chair for some time, he arose in a state of frenzy and struck violently about. Stimulants were administered, and the most alarming stage of the paroxysm

ceased after a duration of nearly twenty minutes. Fully half an hour, however, passed before we could regard our patient as beyond danger. I believe that this paroxysm was the manifestation of the toxic influence of the drug."

Dr. Robert Newman, of New York, has reported to me the case of a gentleman, aged forty, in whose urethra a physician injected one drachm of a cocaine solution—strength not stated—prior to cutting the meatus. In half a minute, patient's face flushed, he felt a general pricking sensation, followed by a piercing sting in his temple, violent headache and great excitement. Then he became maniacal, and under the delusion that he had been attacked by a robber, sprang from his seat, seized the doctor by the throat and began to beat him. The delirious excitement persisted three hours.

A well-known physician of this city gave me his experience with cocaine. Suffering from an attack of otitis media, he used freely, by advice of his medical attendant, a ten per cent. solution in the ear. It caused flushed face, quickened pulse, and breathing—the former, 130—wild look, fixed gaze, hallucinations and delusions—the latter homicidal—attempting assault on a near relative—which persisted three hours, followed by decided depression.

Dr. J. P. Knoche, in the Kansas City *Medical Record*, December, 1885, reports the case of a man, aged twenty-three, to whom he gave cocaine, hypodermically, for anæthesia, using, in several injections, within thirty-five minutes, about two and two-fifth grains. In seven minutes the patient was cold, and sensation lost in hands, forearms, chest and legs. In twenty minutes breathing was difficult, interrupted, sighing. Pulse almost imperceptible, intermittent and very rapid; lips and skin generally pale and cold. Patient was semi-

comatose for a time. Numbness in extremities lasted four hours; imperfect palmar sensation ten hours. Nine hours after, severe renal pain and copious diuresis; the tremor and weakness continued twenty-four hours. Symptoms gradually decreased under free alcoholic stimulation.

Dr. H. J. Boldt, New York city, reports four cases of toxic symptoms from cocaine injections. He injected fifteen drops of a four per cent. solution to relieve an attack of supra-orbital neuralgia. Immediately the patient's face became red, there were dizziness and dyspnœa, his pulse became frequent and feeble, and feeling of oppression about heart occurred. In three minutes the patient fell unconscious and breathing ceased, so that, for fifteen minutes, artificial respiration was required. Then respiration returned, but only five or six per minute, deep and sighing. Heart sounds and pulse very weak and frequent; pupils widely dilated; gaze fixed. Shortly before and directly after return of consciousness, there were convulsive twitchings of the upper extremities. Ten minutes later, speech was confused and incoherent. In an hour the patient was able to walk, but his gait was unsteady. Neuralgic pain did not return for three days. At the patient's request, ten drops of the same solution were again injected, and like symptoms resulted, but they were not so prolonged. Five or six drops of this solution, in this patient, caused flushing, dizziness and dyspnœa, with constricted feeling about chest, continuing half an hour.

II. Female, aged thirty-three. Eight drops of a four per cent. solution were injected for local anæsthesia prior to operation for lacerated cervix. It caused flushing, followed by

dizziness, dyspnœa, nausea, deathly pallor and cold sweat. Pulse frequent and feeble; pupils dilated. Symptoms subsided in half an hour, leaving patient so weak that operation was deferred.

III. Female, aged thirty-three. Neuralgic headache. Eight drops of four per cent. solution were injected over seat of greatest pain, causing dizziness, dyspnœa, quick, weak pulse, distress in chest, especially about the heart, deathly pallor, nausea and sweating, persisting more or less for forty-five minutes.

IV. Female, aged twenty-six. Five drops of a five per cent. solution caused, three minutes after injection, giddiness, palpitation, quick pulse, languor, and temperature rose to 100 8-10 in fifteen minutes.

Dr. F. De Havilland Hall, London, reported the case of a lady, aged fifty-six, to whose nostrils he applied a ten per cent. solution, by spraying. In a few minutes patient complained of cramp-feeling in throat; became very excited; face ashy hue; hands cold; pulse very frequent, and distress was so great that chloroform was given, which relieved the spasm, but she was not able to leave until after four hours.

Knapp noted headache, vertigo, nausea, tottering gait, skin pallor and cold sweat from hypodermic injection of thirty-five drops of a four per cent. solution, with instillation of a few drops of the same in the conjunctival sac.

Reich reported two cases, both females, aged ten and sixty, in which toxic symptoms followed the use of fifteen drops of a two per cent. solution.

Bellyarminoff, of St. Petersburg, observed five cases in which a four per cent. solution to the eye caused headache, vertigo, nausea and vomiting.

Alex. Thompson, M.B., Huntly, Eng., reported this case: He applied a few drops of a fresh two per cent. solution to the conjunctiva of W. R., aged twenty-five, perfectly healthy, prior to removing a fragment of steel. In two minutes, patient became deadly pale, reeled, and would have fallen if not supported. Was quite pulseless, and with difficulty was brought round. Fully half an hour passed before he could go home, and even then was giddy.

Dr. Grosholz, Towyn, Eng., observed a healthy farmer to whose eye three drops of a four per cent. solution were applied, causing pallor, profuse sweating about head and neck, irregular pulse, embarrassed respiration and impending syncope. A stimulant was given, but it was several minutes before the pulse became regular and consciousness was regained.

Dr. Edward Bradley, New York city, noted this case: A professional gentleman, in perfect health, had a four per cent. solution freely used in the filling of a carious tooth. Toxic symptoms soon appeared, the most noted being facial paralysis on the right side. "This condition undoubtedly began its development much earlier than the time of its discovery, as it went on its course of extension for the two succeeding days, involving every function on the right side of the head, rendering me deaf, and unable to close the eye. The brain was depressed so as to destroy all continuity of thought, and I was unable to read or exercise any mental function whatever." The paralysis remained stationary ten days, then slowly lessened, but had not entirely gone at end of six weeks.

Smidt, Ranc, Obersteiner and Blumenthal have noted, after an injection of cocaine, dizziness, agrypnia, muscular twitchings, increased reflex excitability, hallucinations and mania.

Dr. Chas. H. Hughes, St. Louis, editor of *Alienist and Neurologist*, wrote me: "I know of a case where one grain of cocaine paralyzed the heart so effectually that the pulse became imperceptible for a few seconds, and only my presence with my battery, which was in the room, and ammonia, and a morphia and strychina hypodermic, saved the patient."

Germane to the subject of acute cocaine toxæmia is that of cocaine-addiction—these notes are preliminary to a more extensive paper on cocaine inebriety—the existence of which Dr. Hammond denies. He took a half dozen doses, at intervals of one to four days, and says "he acquired no habit." But to argue from that, no danger of addiction, is absurd. Such evidence is worthless. Dr. Hammond might do the same thing with morphia—more, he might take morphia, subcutaneously, daily, for a month or two, without creating a "habit"—albeit its ensnaring power is well admitted—and yet that would not prove its freedom from danger. Not at all; it would merely show his exceptional strength to resist—many, under a like pressure, would surely succumb.

Supporting this opinion, I quote from the last report of Dr. Orpheus Everts—Cincinnati Sanitarium—a gentleman well-known in alienistic circles, which report was kindly sent me after my paper was written—who says: "A distinguished physician of New York has recently reported personal experiences tending to discredit the claim that a cocaine habit, corresponding to the morphine habit, is acquirable. The judgment of this distinguished physician is based upon the evidence of personal experience reported by himself, he having failed to acquire the habit, or any especial fondness for the specific effects of the drug, experienced by the hypodermic injection of one, two, three, and finally eighteen grains of the

salt, on five or six different occasions in the evening before going to bed.

"But for the great reputation of this physician as an author and observer of facts, this denial would have but little weight. The testimony is both bad and insufficient. Bad, because reported by himself—the testimony of an intoxicated person respecting his experiences while intoxicated being proverbially untrustworthy—and insufficient, because the experiment was not continued long enough. Many instances might be cited of total failure to establish the morphine habit or habitual drunkenness, by the use of six or seven doses of morphine, or six or seven drinks of whiskey, one a day for six or seven days in succession. It is often the case that such experiences end with disgust for the drugs used, instead of desire to continue their use. There is also much and accumulating testimony, by competent observers, to the fact of such a habit as is alleged, respecting cocaine, which a single opinion will not invalidate, however worthy of consideration."

Cocainism is not the outcome of using the drug at long intervals. Its transient effect and the demand of an impaired nerve status compel frequent taking—more than alcohol or opium—so that habitues have been known to take it ten, twenty or more times daily, and it is this—growing by what it feeds on—that tends to create and continue the disease.

In the early days of chloral, one point claimed in its favor was a freedom from risk of "habit," a claim long ago exploded, as cases of chloralism well prove, and yet, I venture to assert, there are more cases of cocaine taking in this country to-day, less than three years since its arrival, than of chloral after a period more than six times as long.

Dr. Hammond says there may be instances of cocainism as

rare as chronic tea-taking, and of cases with or after habitual alcohol or opium-using, but, as for quitting the drug, he believes every cocaine-taker could if he would.

The same opinion regarding opium obtains among some medical men, and the only effective argument against such a fallacy is to place those who hold it under power of that drug, and then have them prove their precept by their practice.

While admitting that most instances of cocaine-taking are, for obvious reason, in those who have been, or are, alcohol or opium habitues, especially the latter, I maintain there are cases of pure primary addiction, and that the number is increasing, at home and abroad. Foreign writers have noted them, and they will figure in our records. Notes of one such are here given; others are at command.

I am indebted to the courtesy of Dr. J. E. Clark, Professor of Chemistry in the Detroit College of Medicine, as follows: "In July, 1885, a young man applied to me for relief for what he called a 'severe and persistent case of hay-fever.' He had consulted a large number of physicians without obtaining relief from the irritating and annoying acrid discharge from the nostrils. He claimed he only wished relief for a time until he could make arrangements to leave for the West, as he had lost hope for anything like a permanent cure in this climate.

I prescribed the following:

Cocaine Muriat	Eight grains,
Aquæ Camphoræ	Six drops,
Aquæ Destill	One ounce.

with directions to pour a small quantity in the hand, and snuff occasionally.

Three or four days later he appeared at my office, his face radiant with hope that he had found a specific, and remarked

that "he had felt better the last few days than for a year." He had exhausted his medicine, and I consented to his having the prescription refilled. I heard no more of the case, until one day in November I was in a drug store, and was asked by the proprietor 'do you know Mr.—— is using about eight dollars worth of cocaine a week?' I expressed my astonishment, forbade any further sale, and at once called but failed to find the young man. I then drove to his parents' residence and asked them if they were aware of their son's excess in this matter. They did not know of his addiction to the cocaine, but had noticed for some time peculiar symptoms which alarmed them. I explained the circumstances fully and added my belief that no serious results would ensue provided total abstinence should follow. The sequel shows, however, the 'habit' had gone too far to be easily eradicated, as the young man went on until he became temporarily insane, had to retire from his business, and be under strict supervision until the craving disappeared, a space of about three months." The doctor adds—"this case has furnished me such *positive proof* of a lurking danger in the use of cocaine, that all the negative evidence or hypothetical assumptions published or adduced cannot have the least impression in causing me to relax for an instant the most rigid supervision of every patient to whom I in any manner administer or apply the drug."

The following report, kindly sent me by Dr. Douglas Schoolfield, Newport, Ky., well shows the ill-effect of cocaine on patients addicted to morphia.

Mr.—— had been an opium-habitue for several years, from morphia given subcutaneously to relieve sciatica.

In May, 1885, taking ten to fifteen grains daily, with nervous and digestive systems impaired, but weight nearly nor-

mal and mind clear and vigorous, he came under the doctor's care. Cocaine being then in rising repute as a cure for morphia taking, he was given half a grain subcutaneously, knowing, unfortunately, what it was. Nausea, pallor, rigors and cold sweat soon ensued, followed by flushed face, brightened eyes and a feeling "never so good in all his life." He was delighted, talked incessantly, and declared himself, mentally, the peer of Spurgeon; physically, equal to Samson. The stimulant effect continued two hours, followed by lassitude and sleep. The cocaine was given at irregular, increasing intervals for two weeks, when an effort was made to quit. Two days later, he left for a summer resort and was lost sight of. The next heard of him was through the town druggist, who remarked that he thought Mr.—— must be "getting a 'corner' on cocaine," as he had ordered his entire supply and the address of his wholesale house. He was written to and urged to place himself under proper medical care, but no more was heard of him for two months, when the Doctor was sent for, told he had been brought back, and given this history. On starting for his summer trip he procured a supply of cocaine and began taking it himself, several times a day. In a few days he talked and acted strangely, slept little, appetite failed, and he grew worse daily. An effort was made to withhold it, or substitute morphia, but he resisted both and raved like a madman. He had always been kind and even tempered, but now became irritable and abusive; had hallucinations and homicidal delusions; would leap from bed, rush to window, raise sash and gesticulate wildly at a fancied foe. Calmed, he would be quiet a time, and then break out in the loudest abuse of some friend present, declaring him in league with the devil for his harm.

The doctor was warned as to entering his room, and, pro-

ceeding with care, the patient was found in fighting form, with a long-necked bottle ready for battle. Addressed kindly, his suspicions were disarmed, he abandoned his hostile attitude, apologized, and declared himself quite mistaken. "His condition was pitiful indeed. Constant vigil and loss of sleep had made him a wreck. He was pale, thin, and haggard; ate nothing and slept none; was a prey to distorted fancy, a victim of unrest."

Under proper treatment, he partially recovered, and was placed in sanitarium care. Six weeks after he was discharged, but in bad mental condition, morose and melancholic. He soon became violent and threatening, and was again taken to an asylum, where he now is, improved and improving.

My experience with a number of cocaine cases makes to me two things certain: There is a pernicious power *per se* in this drug, and it finds in the opium-habitue a peculiar condition that specially favors its ill effects, making it, for such patients, as has well been said, the "Devil's own device" to still further enslave.

And this opinion is that of others, for it is the testimony, without exception, so far as I know, of those who have had to do with this disease, that as an intoxicant cocaine is more dangerous than alcohol or opium, and that inebriety resulting from its use is more marked and unyielding than any other form.

Dr. Shrady—editorial, *Medical Record*, Nov. 28, 1885—says: "To some persons nothing is more fascinating than indulgence in cocaine. It relieves the sense of exhaustion, dispels mental depression, and produces a delicious sense of exhilaration and well-being. The after-effects are at first slight, almost imperceptible, but continual indulgence finally

creates a craving which must be satisfied; the individual then becomes nervous, tremulous, sleepless, without appetite, and he is at last reduced to a condition of pitiable neurasthenia."

Dr. Alex. B. Shaw, physician to St. Vincent Asylum for the Insane, St. Louis, asserts: "Once a man flies to cocaine for relief from 'cares that annoy,' he generally continues with such rapid strides towards such complete subjugation to its bewitching thraldom as but few will ever be rescued from by any power of will which they be able to bring to their aid."

Dr. Everts writes: "It is not only not an antidote to opium-poisoning—or, more properly speaking, the organic demand for such drug-effects as have been acquired by use—but is itself a fascinating and dangerous intoxicant, the effects of which may be more difficult to counteract and renounce than are those of opium or its derivatives."

Dr. Hughes declares it "a remedy to be used with extreme caution and prudence internally, and the large doses reported as having been given are not ordinarily safe. It will bear watching. It crazes and kills quicker than opium. The possibilities for immediate harm are not only great, but the likelihood of remote damage, when tolerance is established, is not small. The cocaine-habit, more pernicious than the morphine-neurosis, is the certain entailment of its frequent administration, and its thraldom is far more tyrannical than the slavery of opium."

Erlenmeyer calls cocaine the third scourge of humanity—alcohol and opium being the first and second—and Erlenmeyer is right, as to toxic neuroses. He says: "Its characteristic effects are vaso-motor paralysis, accelerated pulse, profuse sweats, dyspnœa and syncope, failure of general nutrition, eyes sunken, skin cadaveric, with mental trouble that some-

times needs restraint," and I am positive, from cases under my care, that he is correct.

I think it for many—notably the large and enlarging number of opium and alcohol-habitues—the most fascinating and seductive, dangerous and destructive drug extant; and while admitting its great value in various disordered conditions, earnestly warn all against its careless giving in these cases, and especially insist on the great danger of self-injection, a course almost certain to entail added ill.

To the man who has gone down under opium, and who thinks of taking to cocaine in hope of being lifted out of the mire, I would say, "don't," lest he sink the deeper.

I have yet to learn of a single instance in which such an effort reached success; but I know many cases where failure followed, or worse, cocaine or coca-morphia addiction.

And the need of caution against free and frequent using obtains in other cases, for there may come a demand for continued taking that will not be denied.

To summarize: Cocaine may be toxic, sometimes deadly, in large doses.

It may give rise to dangerous or even fatal symptoms, in doses usually deemed safe.

The danger, near and remote, is greatest when given under the skin.

It may produce a diseased condition, in which the will is prostrate and the patient powerless—a true toxic neurosis, more marked and less hopeful than that from alcohol or opium.

Such being my belief, I regard Dr. Hammond's statements mistaken, and his conclusions rash and dangerous.

EDITORIAL.

RECTAL MEDICATION BY MEANS OF GASES,

Though not absolutely new, has been prominently brought to the notice of the profession by Professor Bergeon. His experiments have been repeated by quite a large number of persons both in Europe and in this country. It is too soon to pronounce positively as to the value of the method, but so far there seems to be but little danger of doing harm, though a few cases have occurred in which there were developed disagreeable symptoms. The method consists in injecting into the rectum sulphuretted hydrogen mixed with carbonic acid. The proportion of the sulphuretted hydrogen should be small. The gas is taken up by the veins of the lower alimentary canal and eliminated through the lungs. As it is an antiseptic it acts upon the morbid structures through which it escapes. Such is the theory. So far as known, it does not seem to be a bactericide.

Cases now under treatment in this city are certainly improving, for some reason. The temperature is diminishing, night-sweats and expectoration are less, and their general condition is more comfortable.

The apparatus devised by Morel, in Paris, has been prepared in Chicago, and can be used easily by anyone who may desire to test this method. The carbonic acid is liberated by the action of sulphuric acid upon a carbonate; as, for instance ordinary carbonate of soda. The sulphuretted hydrogen is, by Bergeon, combined with the acid by passing this latter gas

through the natural sulphuretted waters. The mixture, contained in any convenient form of gas-holder, is ready for use. It should be introduced into the rectum unmixed with atmospheric air, as this latter may produce griping.

FOREIGN CORRESPONDENCE.

NOTES FROM A LONDON SOCIETY.

LONDON, England, February 21st, 1887.

To the Editor of THE CHICAGO MEDICAL JOURNAL AND EXAMINER:

DEAR SIR:—I send you some notes (abstracts) taken at a meeting of the Royal Medical and Chirurgical Society.

W. E. Cant, F.R.C.S., sent a paper (communicated by Mr. Holmes), on clinical observations on

"INDURATION" IN PRIMARY LESION OF SYPHILIS IN WOMEN.

The following results are founded on 3,300 cases examined in the Royal Albert Hospital, Devonport, during a period of six and a half years.

In contradistinction to the generally accepted fact, that in men induration is as a rule well marked, it is so in women far less generally. The induration which is described as being circumscribed, limited to the base of the sore, and clearly marked off from the surrounding tissue in men, in women is, about as often as not, diffused a considerable distance into the tissues around, often very widely, not sharply defined from the surrounding tissues, nor circumscribed in the base of the sore itself. The most typical form of primary sore with its induration resembling a disc of cartilage set in surrounding soft structure, described as being frequent in men, is seldom met with in women. Every variety as to the degree of development of the induration is met with in women; but there is a large proportion in which it is very slight—about one-third.

In some of these slight cases it is impossible to affirm that there is any thickening at all present, and there is a small number in which none exists throughout the whole course of the sore.

Induration is present in the early stage of the sore in a small proportion of cases. The time of its occurrence in the course of the sore varies greatly; it may occur at almost any period of its course. It becomes most marked and developed toward the middle and latter part in many cases.

Tables of cases of primary sores, grouped according to their clinical character, and showing—when first apparent—characters at earliest period, etc., and also of five cases of infecting primary sore in which there was no induration, are appended to the paper.

Dr. R. G. Hebb's paper is entitled,

"A CASE OF ACTINOMYCOSIS HOMINIS."

W. H., æt. 11, was admitted into the Westminster Hospital on March 18th, 1886. He had suffered for a month previously from pains in the limbs, diarrhœa and "feverishness." On admission the most prominent symptoms were those of lung consolidation and pleural effusion, for which he was tapped twice. Soon after pyæmic symptoms developed, and the patient died June, 2d, 1886. The post-mortem examination disclosed abscesses of the brain and meningitis, pneumonia, excavation of the lungs, and suppurative pleuritis.

A large vegetation was found on the wall of the right auricle of the heart, and in the liver an abscess and many areas of caseation.

On microscopical examination of the liver numerous pigmented cells were found, many of which formed the center for the departure of radiating filaments. The conjunction of these

two factors gives rise to the appearances of a definite organism, for which the name of Actinomyces was adopted. In the brain and lungs collections of cocci only were found.

A colloquial discussion followed the reading of these papers. The majority of the Fellows were of the opinion, regarding the first paper, that the induration around the sore would be found to exist whether in the male or female, when occupying the same class of tissues.

Regarding the second paper (Actinomycosis Hominis), it was generally concurred in by the Fellows that the history and post-mortem appearances of the case were useful in aid to diagnosis:

1st. Pneumonia existing.

2d. Wasting and hectic fever, swelling and tenderness of the region of the liver, and no fluid by aspiration.

Mention was made of three cases of this infection starting in the lung, and following the same course. One case of Mr. Israel; one case of Mr. Skillett; one case of Dr. Hebb.

Attention was called to total duration of the disease of three and a half months, beginning from ill health.

Specimens of actinomyces under microscopes (1-12 in oil) were prepared for examination.

The hour for adjournment having been announced, the proceedings were brought to a close.

WM. B. MEANY, M. D.

HAVANA, CUBA, February 20th, 1887.

To the Editor of the CHICAGO MEDICAL JOURNAL AND EXAMINER:

Of the many who seek warm winter climates, a small proportion go to the island of Cuba. Havana is usually the objective point. Cuba lies under the tropic of Cancer, its southern portion being within the tropics. Along its northern coast flows that great ocean river, the Gulf Stream. Its width opposite Havana is 90 miles; the temperature of its water about 78° F.

The Cuban winters are, therefore, always warm. They are also dry. During our brief stay on the island, the thermometer has registered 80° F., or higher, in the shade, at mid-day. During the day the air is comfortable; at night it is damp; the dews are very heavy, and the air seems chilly. The prevailing winds during the winter months are from the northeast. The city of Havana, situated upon its deep bay, with its narrow entrance, is built upon soft, porous, coral rock. Its site is nearly level. The older part of the city is upon the water's edge. It was once surrounded by a wall and fortifications. The houses in this portion are small, and the rooms are badly ventilated, some, even, being without windows; and they are often much overcrowded. The classes inhabiting this district are negroes and the poorest whites. The streets, with few exceptions, are unpaved. The newer and better-built portions are back from the bay, upon slightly higher ground. In these the streets are well paved with stone. The houses are larger; the rooms have high ceilings, and are well ventilated. But even here there are many unsanitary conditions.

The house plan in Cuba is an inheritance. It came from Old Spain three hundred years ago. The rooms open upon a court; there is but one entrance to the house; the drainage often reaches the street by an open gutter. Privy vaults are still used, and are within the dwelling. The hall serves as carriage-room and stable.

The water supply of Havana is scanty. Water is brought to the city partly in canals and open aqueducts, and partly in pipes. In many parts of the city it does not rise above the first floor. It is obtained from small streams, and its quality is not uniform.

The city is badly drained. Large areas are unsewered, especially in the older and unpaved districts. In the portions that are supplied with sewers, the drainage is imperfect. During the winter the sewage stagnates in the conduits, because of lack of water to carry it on. Where the drainage is upon the surface, the fluids dry up or are absorbed by the underlying porous rock. In the wet season the heavy rains flood the sewers, and the accumulated sewage is washed into the bay, where there is no constant current, and a tide of only 18 or 20 inches. Dilution is effected very slowly, and the contaminated waters near the stream are washed up and down along the line of the wharves. The water at a distance from the shore, out in the bay, is comparatively clean.

The navy yard is contiguous to a long line of wharves, and adjoining it is the Military Hospital, with capacity of 2,000 beds. The hospital is never entirely free from yellow fever, and through its sewage adds to the infectious material brought to the bay by the city conduits. The air along the shore is

more or less polluted. During the day the odors are less disagreeable, and there is little or no danger then; but it is not prudent for strangers to be on the wharves, even in winter, after the sun has set and the heavy dews have begun to fall.

Vessels that discharge and take on cargoes at the wharves do so at the risk of becoming infected. They often lie one, two, and sometimes three weeks with their hatches open and their holds exposed nightly to the damp, foul air. To those anchored in the clean water, off from the shore, the risk is very slight; while to vessels that arrive and leave upon the same day, as is done by the United States mail steamers running between Tampa and Havana, the risk is reduced to the minimum; they are comparatively safe, even during epidemics. A brief survey shows that the sanitary conditions of Havana are not good. Its death rate is 43 per 1,000. The disease most dreaded by strangers is yellow fever. Yet the yearly mortality from yellow fever is less than from phthisis. Yellow fever is endemic and nearly always present, but the number of cases in winter is very small. They originate almost without exception in the older and most uncleanly portions of the city, in houses almost incapable of ventilation, in rooms that have probably been infected by repeated epidemics; some cases also occur in the shipping. For the stranger in Havana the conditions are different. The best hotels are located in the most healthful parts of the city, and are furnished with modern improvements. Reasonable attention to diet and precaution against exposure to the damp night air and the hot noon-day sun render the winters perfectly safe.

The medical institutions of Havana are of interest, and I am indebted to the kindness of W. D. M. Burgess for the opportunity of seeing the hospitals of this tropical city.

Yours truly, FRANK S. JOHNSON, M. D.

DOMESTIC CORRESPONDENCE.

PERINEPHRITIC ABSCESS, *with absence of constitutional symptoms of suppuration.* HARLOW N. ORTON, M.D.

When pus in large quantities is being formed, or exudated, we generally expect the patient to exhibit some constitutional disturbance, as rigors, elevation, temperature, etc.; but once in a while there comes under our observation an exception to this rule: a human system peculiarly prone to suppuration: In pus-formers, an anomaly like the "bleeder-families" (Hæmophilia), no cause is known, except hereditary predisposition. It is in this class of cases we are apt to find the symptoms denoting suppuration somewhat obscured. In illustration, I will relate the history of a case.

Jacob Mosden, age 24, married; tall, muscular man; occupation, switchman on the N. P. R. R. Said he had been pretty healthy since ten years of age; before that time had been troubled with large abscesses on different parts of his body.

On September 1st., 1886, he sprained his wrist, and in two or three days had cellular inflammation of the whole forearm. He was treated in the hospital at Brainerd, Minnesota, for several weeks. Five openings were made, and a large amount of pus drained off.

He called at my office on October 2nd. His arm was about well, but his general health was not very good. I prescribed tonics, and he improved rapidly. On October

15th I was called to his house, and found him down on his back again. Examination revealed acute pneumonia with consolidation of lower lobe of the right lung, from which he soon recovered, and on November 12th he was feeling well, and was about to start to work.

On November 13th I was called to his house again, and he complained of pain a little above the region of the right kidney. He had no rigors, and I found no rise of temperature. There was slight prominence of the muscles, and some tenderness a little above the region of the kidney. His urine proved to be normal on examination. My diagnosis was neuralgia, for the want of something better to call it. I prescribed a mercurial purgative; quinine, 5 grains three times a day; and an anodyne liniment for his back.

On November 16th the parts were very much swollen and reddened. He had no chills or fever. I concluded that a perinephritic abscess was being formed, and advised the continuous application of hot poultices over the swelling.

On November 19th his condition was about the same. No fluctuation could be detected thus far. Dr. J. W. Bell was called in consultation, and concurred in my diagnosis.

On November 23rd his temperature was 101, and his pulse 85. He had no chills at any time. His urine was normal, the swelling increased to about twice the size it was at the last examination, fluctuation was just perceptible. I cut down upon the abscess at the outer border of the quadratus lumborum muscle, and made a free opening of about one inch and a half. This let out over a quart of pus; a simple poultice being applied over the surface. In the next twelve hours it discharged about one pint more; no drainage

tube having been used, the incision was free enough to admit of a ready outlet for the contents, and there was no re-accumulation.

I think it was due to his peculiar diathesis that he did not exhibit some general symptoms of systemic poisoning, which that amount of pus in any part of the body generally produces.

Minneapolis, Minn.

SOCIETY REPORTS.

TRANSACTIONS OF THE CHICAGO GYNÆCOLOGICAL SOCIETY.

Regular meeting, Friday, February 18, 1887.

I.—BYFORD. *Slippery Elm Tents.*

II.—JAGGARD. *A Placenta, with Marginal Insertion of an Absolutely Short Umbilical Cord, Measuring Nine Inches in Length.*

III.—JAGGARD. *The Antiseptic Obstetrical Pads of Dr. H. J. Garrigues and Dr. Wm. L. Richardson.*

IV.—JACKSON. *Dermoid Cysts of the Ovary.*

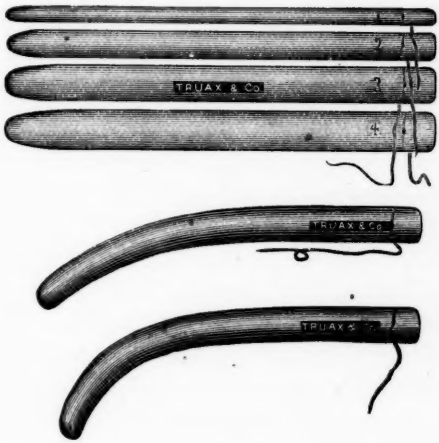
V.—FENGER. *Dermoid Cysts of the Ovary.*

VI.—JACKSON. *Vaginal Pressure In The Treatment of Chronic Pelvic Disease.*

PHILIP ADOLPHUS, M. D., in the Chair.

I.—DR. HENRY T. BYFORD made the following remarks on

THE SLIPPERY ELM TENT:



For quite a number of years, I have been using slippery elm tents in the treatment of uterine disease. Within the last few weeks, I have received from Messrs. Charles Truax & Co., of this city, some improved tents made out of the compressed bark. By compression, its dilating power is increased so as to render it useful as a substitute for tupelo, sea-tangle and compressed sponge in many cases.

The characteristic of slippery elm bark is that upon being moistened a slippery substances exudes, which acts both as a lubricant to the tent, and as a protection to the mucous membrane against that injury or abrasion which sometimes follows the use of dilators of this class. Another advantage is the rapidity of its action. The tents expand sufficiently within an hour or two for the introduction of a larger size, or two or three of the same size. This may be repeated until the desired dilatation is obtained, and, since the expanded tents are both soft and slimy, with a minimum amount of injury to the parts.

A small elm tent may be introduced at the office and left for twelve or twenty-four hours and thus serve, providing it be used once or twice a week, as a mild substitute for the intra-uterine stem in cases of sterility. The patient can go home and keep quiet until she removes it by the attached string, upon the advent of severe pain, or at the end of the twenty-four hours. A glycerine tampon placed under the cervix is necessary in such cases to retain it in place.

These tents are also available as applicators, for the exuding slime carries the drug out from them intead of into them, gradually dilutes it, and thus limits its action.

As dilators and applicators in vaginitis, vaginismus, urethritis, urethral stricture, etc., they are also useful, and may be ordered of any size, shape or curve desirable.

They should be kept in a tightly covered box or bottle, as they become brittle and lose their rapid expansive power when they get too dry. It would be a good thing to dip them

in gelatine or cocoa butter when they are to be preserved for a long time.

DR. A. REEVES JACKSON: I have used slippery elm tents a great many years, and I have no doubt that the form in which they are now presented by Dr. Byford will render them more suitable for dilating purposes than heretofore. In this form, however, I have made use of them recently, and have been disappointed as regards their dilating power. Slippery elm forms a slimy mass at the expense of its substance, and while this mucilaginous mass and the mucous discharge which appears with it causes the tent to seem large, the latter does not exert much dilating power, and I was surprised to find that after moistening one of these compressed tents for several hours in water, it was very little larger than before. I have had a great deal of satisfaction in using flat pieces whittled out of the slippery elm bark, in the following manner: I use a small sponge tent, and in order to get the expansive power of that material surround it with a cordon of these slips, so as to protect the mucous membrane from injury. I think that in the combination of sponge tent and slippery elm we have the best means for tent dilatation. In this way we get the dilating power of the sponge with the protective effect of the slippery elm.

In cases in which stenosis seems to be the cause of sterility, I use non-expansive stem pessaries. My experience in the use of the intra-uterine stem has been very large, and I find, in order to effect any change of structure, that it is usually necessary to carry out the treatment for many months. I have never succeeded in changing materially and permanently the direction of the cervical canal in less than six or eight weeks, and sometimes over a year has been required. The stem may remain undisturbed for many months. This makes a great difference to the patient, who otherwise is obliged to have the instrument changed frequently. I use chiefly a very flexible soft rubber stem, which may be introduced and worn for months without irritation. It may be of

different degrees of flexibility, a very small one at first, and of very slight straightening power, and by and by another, larger and stiffer, and so on until at the end of some weeks or months the desired change is produced. I think the use of a substance that is not absorbent and does not dilate superior in these cases.

DR. H. T. BYFORD: I have had many cases of sterility of several years' standing, dating from marriage, cured by three or four or more small tents used once or twice a week. Their power is milder than that of compressed sponge, and less radical than that of the intra-uterine stem pessary. These negative qualities are the accompaniments of nearly all safe remedies. If Dr. Jackson had watched the compressed elm tent, which seemed to expand so little in several hours, he would have found that it expanded two or three times its own diameter in less than two hours, and then became smaller again by having its softer portion dissolved out. In the uterus its substance is not washed away as rapidly as in a basin.

II.—DR. W. W. JAGGARD EXHIBITED A PLACENTA WITH MARGINAL INSERTION OF AN ABSOLUTELY SHORT UMBILICAL CORD, MEASURING NINE INCHES IN LENGTH.

The specimen, placed at his disposal by Dr. Charles Caldwell, was of interest in connection with Dr. John Bartlett's paper, read at the January meeting. The absolute shortness of the cord in Dr. Caldwell's case did not constitute a mechanical hindrance to the progress of labor, although there was some slight difficulty in ligaturing the organ, after birth of the child, on account of the proximity of the navel of the child to the vulvar orifice of the mother.

III.—THE ANTISEPTIC OBSTETRICAL PADS OF DR. H. J. GARRIGUES AND DR. WM. L. RICHARDSON.

Dr. H. J. Garrigues describes the application of the pad in the following words: The well-closed vulva is covered with a pad of absorbent cotton, wrung out in the solution (1,2000). Outside of that comes a piece of oiled silk, or preferably thick

gutta percha tissue, dipped in the solution. To keep this antiseptic part of the dressing in place I use a large pad of dry absorbent cotton, and a rectangular piece of canton flannel or a square piece of unbleached muslin, half a yard in both directions, and folded diagonally like a cravat. Dr. Wm. L. Richardson substitutes absorbent scrap or waste done up in cheese-cloth for the absorbent cotton. Of course, Dr. Richardson does not insist upon the pad as essential. There is nothing peculiar about the pad except that it seems to me to be a very convenient and safe form of dressing to use. The main thing is the use of antiseptics all through the delivery, and the pad is all that is needed for the convalescence.

The important services, rendered to the profession and community, in the prophylaxis of child-bed fever, by Garrigues and Richardson, demand recognition. In the New York Maternity Hospital the mortality from sepsis—Oct. 1, 1882, Oct. 1, 1883, 429 patients,—was 6.06 per centum. Garrigues has reduced this mortality to—Oct. 1, 1885, Oct. 1, 1886, 463 patients,—.21 per centum.

In the Boston Lying-In Hospital, the mortality from sepsis, Jan. 1, 1882, Dec. 31, 1882, 288 patients—was 5.55 per centum. Richardson has reduced this mortality to—Jan. 1, 1886, Dec. 31, 1886, 373 cases,—.0 per centum.

The American woman insists upon wearing some sort of a napkin to absorb the lochia. If she wear one at all, it must be antiseptic.

IV.—DR. A. REEVES JACKSON EXHIBITED TWO DERMOID CYSTS OF THE OVARY.

Case 1. First seen by me May 27, 1884. Julia C., aged forty years, was married at twenty, had one child two years later, and no other pregnancy. Commenced menstruating at 17, and was regular after the first year. Always had good health. Five months ago, weighed 176 pounds. Three and a half months ago she took a long walk in the evening, while menstruating. After her return she had a slight chill, and

severe pelvic pain, the latter chiefly referable to the bladder, micturition frequent and painful. She seemed never to recover her health; vesical symptoms continued, appetite and nutrition failed; she became rapidly emaciated; a swelling appeared in the lower abdomen; menstruation appeared regularly and without pain. She could not walk, but rode out in a carriage. A few days before I saw her she rode out, with enjoyment, but returned a good deal fatigued and soon began to vomit. Her upper extremities moved involuntarily, and there was a complete loss of power in the lower ones. A "metaphysician" was called to see her and gave the assurance that there was no bodily ailment,—the mind only was at fault. This assurance was repeated twice a day by the Christian scientist, who on these occasions sat out of sight of the patient, the head-board of the bedstead separating them. However, the patient and her friends thought she was getting rapidly worse, and I was asked to see her. At the time of my visit she was lying in bed on her back. Her hands and arms were in constant motion; she seemed powerless to keep them still a moment; she could make no co-ordinate movements, indeed had no control whatever over either the upper or lower extremities; the latter were, however, motionless. The functions of the bladder and bowels were voluntary; the tongue dry and covered with a brownish coating; there was great thirst; pulse 110, small and almost imperceptible at the wrist. The temperature was not observed. She was very restless, and had not slept more than ten minutes at one time during the past three days. At short intervals she vomited a greenish, frothish, tenacious fluid. On examination I found the abdominal walls soft, and free from tenderness on pressure. There was a feeling of doubtful fluctuation with dullness at the sides, also in the right iliac region. The higher parts of the abdomen, as the patient lay on the back, were resonant. She died the following day, and in the evening an autopsy was made with the assistance of Drs. Brower, Danforth and E. Ingals.

On opening the abdomen we found besides other evidences of acute inflammation the exudation of perhaps a quart of pus. As this was being removed it was discovered that its source was a partially collapsed cyst, which still held about one pint of pus, and from the opening through which the pus came there protruded a few hairs. This fact settled the diagnosis. The woman had died of a ruptured dermoid cyst. The kidneys showed evidence of chronic disease. The cyst, with the ovaries and Fallopian tubes, was removed. Here I show you the opening, which was somewhat enlarged after the autopsy for the purpose of freeing the inner portion of the cyst. In addition to the hair there were also some rudimentary teeth and some plates of bones which I sent to a pathologist for examination, and received from him a photograph showing the bony constituents of the cyst. Apparently all of the dermoid tissue was centered in this space. The amount of hair was large, as you see. This was matted together in the usual manner, and has been freed from the sebaceous matter which accompanied it by shaking it in ether. This is a miniature switch made by an artist in such matters from a portion of the hair. These dermoid cysts, of which I have now seen three, possess great interest to me, pathologically. I confess to not understanding them, so I asked Prof. Fenger to be here to-night, and he promised to bring some additional specimens and to talk about them.

Case 11. Dora B., 35 years old, wife of a physician esiding at Normal Park. Saw patient on February 10th 1886. Married fourteen years; two children, aged respectively 11 and 7 years; also two abortions, one three years and the other two months since. Nine months ago, while lying on her back, patient noticed a swelling the size of an orange in the right iliac region. It was soft, smooth, movable and insensitive; has slowly encroached on the opposite side; five days ago, after sneezing, experienced a sharp attack of pain in pelvis which lasted twenty-four hours, keeping her in bed. I found on examination an abdominal

tumor occupying the hypogastric and right iliac region, extending upward as high as the umbilicus, and into the left iliac fossa. On February 23d she entered my infirmary and the tumor was extirpated on the 25th. It weighed about eight pounds. There was a main cyst, containing a limpid serum, and inside of this a smaller cyst about the size of a mandarin orange, containing bone and hair. This tumor possesses an interesting feature that I have never observed before in either of the cases I have seen. It is this, there are two distinct kinds of hair, one of an auburn color, very curly, portions of which are still attached to the part, and two tufts springing from other portions of the rough, orange-rind-like skin, which are long and straight, quite free from curl, and of an entirely different color. The kinds of hair that I have seen from other specimens, while they have usually differed in color from the patient's hair, have always been uniform throughout. In the first case I saw, several years ago, the hair was 36 inches long. In that case, the part from which the bony substance and hair sprang were in one part of the tumor, occupying a small space. The patient had carried this for many years without symptoms. Finally it commenced to grow and formed a tumor sufficiently large to attract her attention. There were two cysts. The first one was a very large one, containing a semi-colloid matter very much resembling soft soap, and in great abundance. Separate and distinct from this there was a cyst not larger than a goose's egg, soft, and which could be indented readily, and when it was opened there came out a mass of hair together with other dermoid characteristics. So it seemed that the cyst which contained the fluid and made the growth perceptible was secondary, and this fact would account for the clinical fact of these patients carrying a tumor for many years without any impairment of health until an additional cyst is formed that

may present any of the characteristics of an ordinary ovarian cyst.

DR. CHRISTIAN FENGER made the following remarks on

DERMOID CYSTS OF THE OVARY,

with illustrations from specimens:

In entering upon the question of the dermoid cysts of the ovary, I wish to call attention to the two theories of their origin. According to Heschl, dermoid cysts in general owe their origin to isolated islands of the epiblast, displaced during embryonal development and located somewhere in the territory of the mesoblast. This theory of fœtal inclusion did not explain the origin of the dermoid cysts in the testicle and ovaries. It was not until His had shown that the internal genital organs are developed from a part of the embryo, the so-called "axenstrang," in which all the germinal layers are included, that we were able to understand the presence of dermoid cysts in those genital glands.

The second theory of the origin of dermoid cysts in the ovary is the view of the older authors, recently adopted by Waldeyer. Epithelial cells of the ovary, capable of transformation into the ovum with all its formative possibilities, may enter into an irregular formative activity and produce a dermoid cyst—a process almost analogous to a partheno-genetic development, as Ohlshausen states it. This second theory would only explain the origin of dermoid cysts in the ovary, and would not enable us to understand their presence in all other parts of the body. Consequently, it seems more natural to accept the Heschl-His theory, as this gives a satisfactory explanation of the origin of dermoid cysts in general, and is in conformity with Cohnheim's theory of the origin of all other new formations, from an isolated group of embryonal cells, dormant until the unknown cause of the new formation calls them into formative activity.

A dermoid cyst is always a monocyst, and if, as is seldom the case, we find more than one in the same ovary (Ohlshausen

in one case found three), we may expect to have had more than one embryonal matrix, from each of which a cyst has developed, the one independent of the other. It often appears as if a dermoid cyst of the ovary were a multiple one, but closer examination will prove that we have before us a combination of a dermoid cyst and a proliferating cystoma, or more rarely a dermoid cyst with multiple local colloid degeneration of the stroma of the wall. Cystic transformation of the sweat glands—extensive cysts to the size of a fist—was seen in one case by Friedländer.

I shall not go any further into the subject of the dermoid cysts here, but only present to the Society three specimens removed by laparotomy within the past year, and will call attention to the points of interest illustrated by each one in particular.

Case 1. This specimen, at the time of the operation the size of a fist, now much smaller from shrinking in the alcohol, was removed from a girl of 20. There was no difficulty about the removal, but I am sorry to say that the patient died from acute sepsis thirty-six hours after the operation. Besides the sebaceous matter and the hairs, which you have already seen in Dr. Jackson's specimens, we find in dermoid cysts very commonly—in from 20 to 50 per cent. of the cases—teeth inserted in the soft dermoid wall or in pieces of bone contained in the latter, or finally, free in the contents of the sac. As a rule there are only a few teeth in a cyst; but Schnabel has seen, in a case of a girl of 13, over 100, and Autenrieth describes a case in a 22-year-old woman, in which 300 teeth were removed and as many more left in the cyst. As Ohlshausen states, it is impossible to understand the presence of such numbers of teeth without the explanation that, the same as in children, multiplication of the enamel germ takes place and a set of milk teeth are followed by a set of permanent ones. That this is more than a mere theory is proved by a specimen in Rokitansky's collection in Vienna, in which there is seen a milk tooth with the root absorbed down to the crown

by atrophy from pressure of the overlying permanent tooth. Spencer Wells, in his "Ovarian Tumors," states that he has seen one similar instance. In the specimen before us this fact is illustrated to perfection. From the soft parts on the surface of this little piece of bone, in the wall of the cyst, you see attached a tooth corresponding in shape and size exactly to a temporary incisor of the upper jaw. I have made an incision through the gum, if we may use that expression, and, as you see, the root is absorbed almost down to the crown. When we turn this milk tooth to the side, we see the crown of the overlying tooth. This is larger, and has the exact shape of the corresponding permanent incisor.

Case 2. The next specimen is a very large dermoid cyst from the left ovary of a woman at 50. It filled the whole abdominal cavity up into the cardia and gave the exact symptoms of a proliferating cystoma or multiple cyst, as there were felt, besides the main cavity, harder, lobulated portions, which I supposed to be smaller and more tense cysts. As she gave the history of a cyst which ruptured when she was 14 years old, and caused several months of suffering from peritoneal symptoms and then disappeared, not to return until after the age of 45, I thought that a dermoid cyst was out of the question. At the operation, which was difficult on account of many adhesions and the nature of the contents of the cyst, I found this very large dermoid cyst, containing—(a) Three or four gallons of a brownish fluid, in which floated hundreds of thousands of round, yellowish-white, small bodies, the size of a hemp-seed up to a pea. I pass round a sample of them in these two glasses. These bodies are soft, have the consistency of butter, and are found under the microscope to consist of irregular masses of amorphous fat, with pavement epithelial cells interspersed here and there, single or in groups.

(b) A yellowish-white, butter-like mass the same as the small bodies if matted together, filling up entirely some of the chambers of the cyst, with no fluid mixed with it. This peculiar arrangement of the fat is rare. Rokitansky saw in

a cyst 70 bodies the size of a hazel-nut and very many the size of a pea swimming in a brownish fluid. Routh, according to Spencer Wells, saw a similar case, the balls showing under the microscope concentric layers of amorphous fat around a nucleus of cholesterine crystals. Fraenkel, cited by Ohlshausen, found the whole contents of a dermoid cyst to be numerous hard, mostly round or irregular balls, consisting of amorphous fat, fatty degenerated epithelial cells and hairs. The shape of the cyst is peculiar, inasmuch as it gives the appearance of a conglomeration of cysts. But close inspection shows that all of these communicate with each other so as to form one large though very irregular cavity. Thus in reality we have before us a monocyst, characteristic of the dermoids, as I mentioned before. In the wall, however, we find a number of smaller cysts the size of a pea to a hazel-nut—these do not contain the same fatty material as the main cyst, but a colloid mass, and are due to secondary colloid degeneration in the wall of the latter. The inner surface of the large dermoid cyst shows in some places irregular masses of bone imbedded in the wall, and further, as in Dr. Jackson's cases, the following condition: We do not find typical skin, with hairs, sebaceous glands, epidermis, and so on, everywhere on the inside. This is found only on part of it, forming one or several irregular islands. The remainder of the cyst wall is smooth, has the characteristics of an ordinary cystoma, with a single layer of epithelial, cuboid, or cylindrical cells. It may be that the dermoid portion of the wall secretes the fat and the cystoid portion mainly a serous or albuminous fluid. Movements of a cyst containing at the same time a thin serous fluid and sebaceous matter might (Rokitansky) shape this suspended fat into the small round masses just the same as butter when in the process of churning. However, if this was the right explanation, it appears that this peculiar formation is seen only in very exceptional cases. The right

ovary was transformed into a dermoid cyst the size of an orange. Notwithstanding the dermoid cysts on both sides, the woman had a number of children, the youngest 16 years old at the time of the operation. The patient never rallied from the shock of the operation, and died 12 hours afterward.

Case 111. The third specimen is a dermoid cyst taken from a girl of 23. It was noticed for about one year and a half before the operation, at which time it was one and a half times as large as a child's head. There was no particular difficulty about gettting it out. When I opened the abdomen and came on the cyst it was transparent, so that I did not think it was a dermoid cyst, and I inserted a Kòberles trocar, which of course we should never do in dermoid cysts if we can help it. Immediately the trocar was stopped up by what I found later was a mass of hairs and sebaceous matter, so that I had some difficulty in keeping the abdominal cavity clean. However, she recovered without any greater trouble than a little abscess in the abdominal wall from one of the sutures.

Before demonstrating the specimen I wish to make a few remarks in regard to malignancy of dermoid cysts. As a rule we regard a dermoid cyst as a benignant new formation, and a malignant character is here a rather rare exception. We make a distinction between malignancy of a dermoid cyst, *per se*, and malignancy from a combination of dermoid cysts with carcinoma or sarcoma. The malignancy of a dermoid cyst as such is very rarely seen. Kolaczek relates a case, operated upon by Martini, in which besides a common dermoid cyst with a perfectly smooth surface, there was found in the walls of the peritoneal cavity small nodules in great number, the size of a millet seed and of a yellowish color. Many of these little tumors had a light-colored hair sticking out from their centers into the peritoneal cavity. Similar were seen in a case operated upon by Billroth reported by Fraenkel.

Malignancy of a dermoid cyst from combination with

carcinoma, sarcoma and myoma: These tumors, originating in the tissues of the cyst, are not so very seldom met with, and have been observed more commonly of late years because a more minute microscopical examination is made now than in former years. Ohlshausen mentions as bearing upon this subject a statement of Doran that he had seen in several instances malignant tumors of the abdominal cavity follow extripation of dermoid cysts. On examining the main wall of the specimen before us, we find on the dermoid island with its hairs and a plate of bone in the wall, the following unusual formations:

(a) A large black mole: It is of irregular lobulated shape, two by three inches in diameter, slightly elevated over the surrounding skin and has a velvety, uneven surface, without hairs. Microscopic examination shows the common structure of pigmented moles, which, as you will remember, has a great similarity to that of a sarcoma.

(b) A papilloma the size of a pea: You will see it outside of the mole on the skin over the bony mass. It is surrounded by a thick wrinkled skin beset with hairs. On transverse section it shows a solid center covered with the pointed excrescences resembling exactly a large wart with long papillæ, as we sometimes find them on the skin of the hand. A detailed microscopic examination and description of all the specimens is not as yet finished, but I intend to give it in a future discussion. It is sufficient, however, here to call attention to the important bearing the two benignant new formations found in this cyst have upon the malignancy just spoken of. It is well known that moles often furnish the soil for sarcomas, and that warts or papillomas for years benignant, sometimes all of a sudden commence to grow because they are transformed into a carcinoma or a sarcoma. The rapidity with which a dermoid cyst sometimes will grow involves a great nutritive hyperactivity. I can understand that this, in its turbulent way of forming tissues without an aetiological

object, could cause the physiological resistance to disappear and thus open up the gates for malignant tumors.

IV.—A. REEVES JACKSON read the following paper, entitled:

VAGINAL PRESSURE IN THE TREATMENT OF CHRONIC PELVIC DISEASE.

The brief paper which I have to present this evening was suggested by some remarks with which the society was favored at its last meeting, by Dr. Etheridge, entitled a "Preliminary Note on Antiseptic Tamponnement of the Vagina in the Treatment of Pelvic Inflammation."

It would have afforded me pleasure to endorse the treatment which was advocated at that time, had an opportunity been given for so doing, for I have had occasion to make frequent use of it, and to learn its advantages, during the past eight or nine years.

My attention was first called to this subject by reading a paper which was published by Dr. V. H. Taliaferro, of Atlanta, Ga., in 1878, on "The Application of Pressure in Diseases of the Uterus," in which the writer presented many facts and arguments to prove the great therapeutic efficacy of the principle of pressure as applied to the treatment of diseases of the uterus and other pelvic organs, which are characterized by habitual passive congestion and its results, namely, uterine displacements, enlargement, relaxation, cervical erosions, menstrual disorders, etc.

The method consisted in firmly packing the vagina with sheep's-wool made antiseptic with carbolic acid, with the aid of a Sim's speculum, the patient being in the knee-chest posture.

At first Dr. Taliaferro used cotton pledgets, saturated with glycerine; but, observing that the cotton packed quite hard, he very soon substituted wool because of its resiliency, a quality which it was found to retain under pressure and moisture.

In illustration of the results of this method of treatment he

detailed a number of instructive cases in which it had been used by him.

In one of these the patient was suffering from supra-vaginal elongation of the uterine cervix, complicated with complete cystocele and vaginal eversion, the involuted parts protruding from the vulva and forming a tumor of considerable size. The uterine canal measured six inches. The parts were restored and the vagina packed with cotton, a process which was repeated every two or three days for a fortnight, at the end of which time the depth of the uterus was reduced to three inches. Other symptons were correspondingly improved. The patient, who had been only able to drag herself along with pain and difficulty, could, after the first packing, move with rapidity and comfort.

She was subsequently cured by a plastic operation on the vagina.

A number of other cases, some of them furnishing results almost equally striking, were detailed by the writer.

Dr. T. strongly emphasized the importance of applying the tampon with the patient in Sim's position, in order that the vaginal canal should be distended and elongated to its utmost capacity. He further advised that the first few pieces composing the tampon should be of cotton, for the reason that a greater amount of glycerine may be incorporated with that substance than with wool. It was claimed that the therapeutic effects of this treatment are as follows:

1. It diminishes blood supply and nutrition.
2. It promotes absorption.
3. It removes hyperplastic tissue by retrograde metamorphosis.
4. It diminishes nervous action.
5. It rectifies malpositions.

I was much impressed by the stated results of the treatment, and determined to give it a trial. It seemed to promise a valuable substitute in some of the objectionable and uncertain methods of local treatment then and now in vogue, such

as cauterization, local blood-letting, tents, intra-uterine medication, iodine painting, hot douches, etc.

Since then I have used it in many cases of chronic pelvic disease, and am able to corroborate the favorable statements that have been made concerning its efficacy.

Dr. P. F. Mundè, who gives an abstract of Dr. Taliaferro's paper in his "Minor Surgical Gynæcology," edition of 1885, says: "Of the value of this steady elastic pressure and support in reducing the size of an engorged hyperplastic or (better still) subinvoluted uterus, and restoring the normal circulation to the edematous and congested pelvic cellular tissue, I have no doubt whatever; neither of the potent alterative effect of this pressure on old peritonitic or cellulitic exudations and adhesions."

I had not applied this dressing many times before I observed occasionally on removing the tampon that on various parts of the vaginal wall, and also around the os uteri, erosions appeared, sometimes bleeding slightly on exposure. I attributed this to the fact that the packing had either been too firmly or unequally placed.

In cases of moderate laceration of the cervix uteri, this accident is especially likely to occur if the packing is so applied about the vaginal portion in such a manner as to widely open the os uteri. Hence, in all such cases I endeavor to at first push the uterus upward with a single pledget, and then to pack the entire vaginal fornix about it so as to press the cervical labia together as much as possible.

When any part of the mucous membrane appears soft and succulent, I have found advantage in combining with the glycerine a solution of tannin or alum.

The contact of glycerine is not equally well borne by all vaginas, and in a few cases I have not been able to persist in its use on account of the irritation it caused. In these cases I find an excellent substitute in vaseline, which, although it does not produce the peculiar serous drain which comes with the use of glycerine, is unirritating, and makes possible the

employment of the pressure, which is the more important element in the treatment.

When I first began to use this pressure treatment I chose carded wool, in accordance with the suggestion of Dr. Taliaferro. But it was difficult to obtain a well prepared article, and next to impossible to incorporate any considerable quantity of glycerine with it. I was obliged to use cotton for the upper part of the vagina. I next tried successively oakum and jute.

These substances were elastic—especially the former—and also antiseptic: the former containing tar, and the latter carbolic acid. However, since sheep's-wool has been so prepared as to be free from fatty matter, and is comparatively absorbent of water and glycerine, it more completely and perfectly meets the indications than any of the other substances I have named.

As regards the form of the tampon, I have used it both in single and multiple pieces, and unhesitatingly give preference to the latter in many cases. It is very important that the vagina be packed in such a way as to insure an equable pressure against every part. This cannot be so certainly done with a tampon made from a single piece, or a few large ones as with a number of smaller sizes. When moistened the pieces should not exceed a walnut in size. Time may be saved, however, and the object accomplished, by using a single piece of wool for the lower half of the vagina.

Commonly, the only medication I have used with the tampon besides the glycerine or vaseline, has been the occasional addition of tannin or alum. But when, for any reason, I have wished to have the dressing remain longer than two days, I have, after saturating the separate pledgets, rolled them in boracic acid so as to take up two or three drams of the latter.

The cases in which I have found this method of treatment especially beneficial are those which are characterized by soft engorgement—such as the earlier stages of subinvolution, with or without cervical laceration. In these cases I have

seen more marked change effected in two weeks than is commonly seen in two months—or more than is seen at all sometimes—under the use of hot water douches, however perfectly and assiduously the latter may be used.

Permit a slight digression: Without wishing to disparage in the least the use of hot-water irrigations in the treatment of chronic pelvic inflammations, I desire to say that for some years I have held the opinion that their efficacy, great as it is, has been overrated. Indeed, they have been so eulogized that perhaps we have expected more from them than was reasonable. One serious drawback to their usefulness arises from the fact that the sittings cannot be continued usually for a sufficiently long time. If it were practicable to keep a stream of hot water playing against an inflamed or engorged tissue for thirty hours rather than thirty minutes, we should doubtless obtain more prompt and more permanent results. But as the hot-water douche is usually employed, its effects in constricting the over-full vessels are of short duration. I have seen a turgid, purplish cervix subjected to a hot stream for forty minutes; at the end of the time it was pale and shrunken; at the end of another hour, the patient continuing meanwhile on her back, I have found the same cervix as turgid and as purple as before.

Now, just on this account, a manifest and very great advantage may be urged in favor of a means of treatment which, equally with the hot-water douche, has power to unload the vessels of their stagnant contents, and which may be continued day after day and week after week, without remission and without reaction. Such a means is, I believe, to be found in this persistent pelvic pressure and tissue drainage.

Were it needful I could cite many cases illustrative of the beneficial effects of this treatment, but will content myself with but two.

Case 1. A married woman, 34 years of age, had two children at term, and subsequently a miscarriage at the fifth month. After this latter event menstruation became more profuse and the periods were protracted. At the end of two years her general health was greatly impaired and she was markedly anæmic. Ordinary remedies were used without success. At my suggestion, her physician curetted the interior of the uterus, and then swabbed the cavity with Churchill's solution of iodine. Febrile symptoms followed, and lasted a week. Temporarily there was improvement as

regarded the hemorrhage; but in three months she was worse than before, and rarely free from a bloody discharge. It was then determined that I should repeat the curretting. Remembering the inflammatory sequel to the previous operation, I was moved to pack the vagina a few times as a preparatory measure. She was flowing when the first packing was placed. When the latter was removed at the end of forty-eight hours, the only appearance of blood was a slight staining of that portion of the tampon which had been pressed against the os uteri. Another tampon, larger than the first, was placed, carrying the uterus as high as possible in the pelvis. On its removal two days later no blood at all was perceptible. This treatment was continued three weeks, combined with suitable medicinal and hygienic means, with the result of permanently stopping the hemorrhage, and the ultimate restoration of the patient's health.

Dr. Mundé, in speaking of this means of treatment in connection with another class of cases, uses these words: "When the retro-displaced fundus uteri is adherent, these daily emollient and hydrogogue tampons may in time, by their combined pressure and alterative action, bring about the absorption, or at least stretching, of the adhesion, and permit a replacement of the organ." I submit a case in point.

Mrs. J., aged 24 years; had several induced abortions; no child at term. Had been treated for displacement by pessary, with apparent benefit. After a time the symptoms returned, and the physician introduced a larger instrument. It caused pain at once, and in a few hours there was a chill and then rise of temperature. I saw the patient next day and advised the removal of the instrument, which was taken away. It was a very large one. A sharp attack of inflammation ran its course in ten days. No abscess formed. A few weeks later I found the uterus retroverted and the fundus immovably fixed by adhesions in its mal-position. At the request of the attending physician I then took charge of the patient. The treatment consisted wholly in the use of tampons of cotton with glycerine and boracic acid. The pledgets were small at first, and were placed in the posterior vaginal fornix, pressed into position with as much force as the patient could readily bear. The pledgets were increased in size and others were placed in front of the cervix. The vagina was packed below more and more fully and firmly each time with wool, until the canal was distended to its utmost capacity. At first the dressing

was renewed daily, then every two days. At the end of two months the uterus was thoroughly replaceable, all tenderness had disappeared, and no evidence remained of the former presence of adhesions.

DISCUSSION.

DR. PHILIP ADOLPHUS: In the treatment of chronic pelvic disease by vaginal pressure, we may avail ourselves of the two methods of massage and columning the vagina. The latter has a much wider range in the treatment of pelvic disease than massage.

These methods have been hitherto applied to the removal of congestions, exudates, and recent slight adhesions of the serous tissues in the pelvis, which were within reach of vaginal pressure.

We had often thought that we had succeeded in removing by them old adhesions and bands, when merely recent effusions surrounding old deposits had become absorbed, just as nature will, without our aid, absorb a large pelvic effusion in a recent pelvic inflammation.

Neither method, however, can cause the removal of old cicatricial bands, firm adhesions and imbedded organs; and both are contra-indicated when inflammation of the serous tissues exists.

But where dilatation and congestion are present, and comparatively recent adventitious and hyperplastic tissues are to be removed, the stimulant and alterative influence of pressure on the pelvic vessels induces absorption by either of these methods.

The treatment by massage will not, in future, be resorted to as often as formerly; for it is inefficient in its methods, dangerous in its tendency, as well as troublesome and indelicate to the physician and patient.

The sole object of massage is to induce sufficient irritation in order to effect absorption. But the tamponnement of the vagina does much more than massage.

It supports and relaxes tense ligaments; elevates the movable or adherent vagina, bladder, uterus and ovaries, provided they are not adherent to the pelvic walls; depletes congested, inflamed and subinvoluted organs; overcomes spasm and irritation, and induces physiological rest in the parts.

Tamponnement per vaginam is therefore indicated in all cases where pelvic tenderness is present which is not due to an

acute attack, or where absorption is needed; it is efficient in cases of mal-position and prolapse of the uterus, ovaries, ligaments and vagina, where elevation of the organs and mechanical support are required, preparatory to the use of pessaries, or where these cannot be borne.

Columning the vagina is effected in the knee-elbow position by means of Sim's or Simon's speculum. A large pinch of iodoform, boric acid or salicylic acid is first applied to the cervix, a few tampons saturated with glycerine are laid in the vault of the vagina, and then ordinary cotton wool, absorbent wool, or iodoform gauze, is systematically packed into the vagina, to remain there for three or four days. This packing is to be renewed until the effects are produced which the practitioner desires. The patient is not obliged to remain in bed, and the pelvic, sacral and hypogastric pains, together with urethral irritability, are frequently relieved in a short time by this method, which is altogether a more successful, cleanly and decent mode of procedure than that of massage.

DR. JAMES H. ETHERIDGE: I have nothing additional to say except that the continued use of this method in many selected cases has produced most desirable results. But I would protest most emphatically against being understood as recommending it for every trouble of a pelvic nature. For the class of cases Dr. Jackson has enumerated I think it a vastly superior treatment. I was much impressed with the article of Dr. Taliaferro. He tampons the uterus cavity, with the patient in the genu-pectoral position, using a speculum of his own device, which is flanged at the lower end so as to separate the posterior portion of the vaginal orifice, the cervix being held steadily down by the vulsellum, and with a long-toothed forceps he pushes the cotton into the uterine cavity. The true explanation of the benefit which comes from this treatment is, that by elevating the uterus the pressure from its great weight is relieved. There is a mechanical obstruction to the return of blood from the uterus, and what is done by the tampon is to push up the uterus and permit its decongestion, and along with that comes the improved nutrition of the organ, and the reflex symptons in the way of pain, menstrual disturbances and the like readily disappear. I cannot tell exactly how I was put upon this method of treatment; I don't claim it as anything new. Several years ago Dr. Bozemann of New York tamponned the vagina, calling it "columning the vagina." He spoke of several cases of positive elongation

of the posterior wall of the vagina with this continual pressure. His paper was published in full in the transactions of the American Gynæcological Society.

DR. H. T. BYFORD: I agree with Dr. Etheridge, that any pressure that can be made by the vaginal pack could not cause the relief. The benefit of pressure upon enlarged veins in any part of the body, as in the leg or testicle, is only temporary unless some other curative influence be added. Nor do I think that a low position of the uterus causes the venous stasis, for this is not found in all cases, and often is found when the uterus is held high up by contracted and indurated sacro-uterine ligaments. The veins are large, long and tortuous, and are made to admit of considerable change in position of the uterus in almost any direction. The rapid improvement comes from the support to the uterus, and sometimes also to the ovaries, taking away the traction upon inflamed and indurated ligaments, and thus promoting the absorption of exudations that either diminish the caliber of the veins or prevent them from accommodating themselves to the position of the uterus and its anexa. This relief of strain and promotion of absorption in the pelvic tissues is the great remedy for subinvolution in the subacute stage, the same as rest in bed is the remedy in its acute stage, viz.: soon after labor. It is in the subacute stage of pelvic disease that the vaginal pack finds its great sphere of usefulness. Dr. Jackson's second case serves as a good illustration. When the inflammation and induration are in the sacro-uterine ligaments, two or three soft glycerine tampons, made of the best ordinary cotton batting (not the absorbent), placed under and in front of the cervix every second day at the office, and left till the next night, will often relieve the traction and bring about rapid improvement. When it becomes necessary to apply the complete pack, we will get the best effects by so placing the cotton and cotton wool as to relieve the traction upon tender parts, which should be found beforehand by a careful diagnosis.

DR. JACKSON: I think the subject has been very thoroughly discussed and the principle of the treatment clearly illustrated. The important fact is that it is not a difficult method of treatment; that it is efficacious there can be no doubt—the clinical facts justify this assertion. The method pursued by Dr. Bozemann seems to me to be peculiarly objectionable. Strapping

a woman on to a machine for the purpose of packing the vagina, seems both irksome and unnecessary. I am very glad there is such unanimity of opinion in regard to the clinical efficacy of this method of treatment.

W. W. JAGGARD, M.D., *Editor.*

2330 Indiana Avenue.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, February 21st, 1887.—THE PRESIDENT, E. J. DOERING, M. D., IN THE CHAIR.

The discussion of PROFESSOR J. A. ROBISON'S paper on

CLIMATIC TREATMENT OF DISEASE

being in order,

PROFESSOR JOSEPH P. ROSS said he was called upon to open the discussion of the treatment by climate of consumption, one of the most frequent and fatal diseases that afflict our race. Statisticians tell us that more than three million persons die annually of this disease. Dr. G. B. Wood, in his "Practice of Medicine," states that north of the tropics one-sixth of all deaths are caused by this disease. Upon consulting Zeimssen he found that the author of the article on consumption makes the statement that two-sevenths of all the deaths in the world are caused by pulmonary tuberculosis. Since this disease is so general, and since treatment by medicine does not accomplish as much as hygiene, which includes climatic treatment, it is very important that we discuss the subject.

In the excellent paper read by Dr. Robison at the last meeting, he quoted the opinions of three leading medical men with reference to the kind of climate which is appropriate for the treatment of consumption, and Professor Ross thought their views with reference to the appropriate climate, which were adopted in the paper, are correct. From his study and observation of the effects of various climates upon tubercular patients, he believed that, although one cannot say any particular climate is suitable for every case, one can say that for cases in general the air should be pure and dry;

should be neither too hot nor cold; should not be variable, and should be somewhat rarified; for instance, such air as would exist at an altitude of from 1,000 to 3,000 feet above the sea-level; and lastly, the air should be invigorating, because of its containing an additional element, probably ozone. It may be that this invigorating quality is due to an electrical condition of the air, but it is more likely due to ozone. He waived the discussion of each of these elements appropriate to a good atmosphere, but spoke more particularly of different localities that are known as health-resorts, and stated what facts his experience and study had taught him concerning these localities.

At one time the eyes of the medical profession were turned to Colorado as offering the best promises for a good climate for tubercular patients. It was thought that in Colorado we have a climate where there is pure, bracing air, with an altitude high enough to secure rarifaction of the air sufficient to invigorate the respiratory functions. He had observed this fact: that while the patients seem to improve in their general health, the exudate increases rapidly, and if softening occurs it takes place also very rapidly. This is probably due to the high altitude. He had also observed that in the high altitudes patients who have a tendency toward hemorrhages are apt to be unfavorably affected in this way. He considers that in the later stages of tuberculosis, the high mountains of Colorado and New Mexico are objectionable. For this reason only carefully selected cases are advised to go to Denver, Colorado Springs, Pueblo, Raton Pass, Las Vegas, Santa Fè and Albuquerque.

The advantages and the disadvantages of San Antonio, Texas, as a health-resort, were considered. During the winter some seem to improve, but a large number of them complain that the sudden cold winds from the north, or northers, as they are called, cause severe attacks of bronchitis or pneumonia. In the spring or summer there is a great deal of malaria. But barring the northers and malaria, a great many

cases do very well there, and during the months of December and January it seems to be a very good climate for consumptives. But during the summer months the heat has too depressing an influence on the patients.

All things considered, he believes the best climate and opportunities for treating this disease are found in California. With reference to Southern California, probably for two months of the year it would be desirable to send patients down to Los Angeles, Riverside or San Diego; but taking that climate all the year round it is not the place, because the air does not contain the qualities that should make it essentially invigorating; it is not light enough, and seems to lack ozone. Patients affected with ordinary catarrh will do well there, but consumptive patients do not improve in Southern California all the year round. If one could live in the southern climate for two months in the year, and then go up into the Sacramento valley, where one can find almost any altitude, it would probably be the best climate for cases of consumption in general on the continent. One objection to sending patients there from Chicago is the distance.

Study of the Gulf coast and Florida led him to the conclusion that the climate of Florida is a failure for the treatment of consumption, for this reason: patients go there having a cough, being debilitated by disease, and the air is balmy, and they say, what a beautiful air! They do not cough so much, but they sit around and take no exercise, for there is nothing to cause them to take active exercise. There is something lacking in the air: it does not brace one up; he had never seen a patient there that improved the least from day to day. The atmosphere is warm and moist, and very depressing, while malaria abounds.

With reference to the regions mentioned in Professor Robison's paper—viz.: the mountains of Tennessee, Georgia and North Carolina—he said he fully agreed with the remarks made by the author, and thought the climate of these regions is suitable for the treatment of consumption. It is well to

consider the favorable features of this mountainous region of Tennessee, Georgia and North Carolina, which is called the Switzerland of America, and to contrast the climate of that region with that of Chicago at the time of the year when our climate is bad. It is from January until June that our climate is bad—the latter part of winter and spring. Now, it is a fact that at an altitude of 6,000 feet above the sea level, as at Denver and Colorado Springs, the air is too cold; and when we have bad weather here, one will find bad weather in Colorado, extending from January until near June. During these months when our climate is bad, we must consider the question of sending patients away from Chicago. In Great Britain and the north of Europe they consider that the bad time of the year is from January to June, and they send patients down where the Alps dip into the Mediterrean Sea and where they find the climate mild—about the same conditions of climate that we have in some of our Southern States. All the rest of the year we have a good climate; in fall, summer and early winter, the Chicago climate is not bad.

In conclusion he said his reasons for recommending the South as a place to which to send consumptives are:

1. When the climate in Chicago is unsuited for consumptive patients, the climate is mild and favorable in the Southern States.

2. The nearness of Chattanooga, Marietta and Asheville to Chicago and the North, so that the trip can be made in a few hours, recommends it.

3. The results of a limited experience have convinced him that his patients do as well, if not better, at these points than at any other.

DR. J. J. M. ANGEAR said: He endorsed nearly all that Professor Ross has said, and most of the paper of Professor Robison. A few points in the paper he thought might be amplified and supplemented profitably. The author speaks of home comforts, pleasing scenery and congenial society,

and these three things demand a good deal of attention. We are all aware of the fact that there is some truth in the old saying: "Laugh and get fat." It is an impossibility for any one to do well who is constantly under a cloud; it has a depressing influence upon the mind, it matters not how good the climate. The physician advises his patient to leave home for a more salubrious climate, and under the pressure of circumstances he takes his departure. It is probable that there would be more cheerfulness at home than away among strangers, no matter how desirable these places may seem. These things must be taken into consideration. He has believed for a number of years that the benefit of our watering places was not so much from the water, but because the patient leaves home, leaves business cares, and has a gay, good time—sadness of heart has melted away. That patient can "laugh and get fat." There is something here for us to study: the tranquility and peace of mind, so that nutrition can go on undisturbed.

He said the idea is advanced in the paper that in good environments bacteria cannot thrive. If they cannot thrive they are not able to do their mischief. There may be something in this which we do not understand. We do not believe that laughter will ever get rid of a tapeworm; we do not believe that cheerful society and good music will cast out or put a check upon the ravages of trichinæ; but we are compelled by force of circumstances to acknowledge the truthfulness of the assertion that good environments will check, if not destroy, the influence of microbes, and if we are convinced that microbes are really the cause of tuberculosis, then we want to place the patient in such an environment as will check, if not destroy their ravages. It may be wise for us to select pure air, the right temperature, and sunshine; but unless the patient can carry contentment with him, sunshine in his soul, it would be better for him to stay at home; and unless he has abundant means, so

that he may not feel pinched and can enter into the gaieties of the place, he had better stay at home.

DR. J. G. KIERNAN said: The point raised by Dr. Angear, as to the mental condition having an influence on the progress of the disease, is valid as to principle, but he has ignored the mental peculiarities of the consumptive patient. Hope has been known as a characteristic for a long time, but the suspicious element is less known and as frequently characteristic. In removing a patient who has tuberculosis from the surroundings of his home we are doing the best possible for that patient, from a moral standpoint.

PROFESSOR R. G. BOGUE said: Some years ago it was his fortune to spend a few years in the South, the greater portion of them in the mountain regions of Tennessee, Northern Alabama and Northern Georgia. All of one winter, about six months, he spent in Chattanooga; and he could bear testimony to the wholesomeness of the entire region for the greater part of the year, and in the mountain regions for all of the year; in the valleys there are about two months in the summer season when malaria is quite prevalent, but up in the mountains it is eminently a healthy country. The air is pure, the water is good, the scenery is magnificent; there is everything to entertain and amuse one, so far as scenery is concerned. The region of Chattanooga is peculiar and delightful from the variety of the mountain and valley scenery. The entire year, or very nearly so, it is practicable for people to be out of doors. During the latter part of December, all of January, and the early part of February, the temperature is subject to considerable variation; it is reasonably cold and there are some storms, but after the middle of February, with the exception of now and then a short storm, the climate is delightful, extending thus through the whole summer. The altitude in the mountain region is such as to render the summer not oppressive. He believed that for the colder and stormy portion of the winter

the region south of Atlanta might be better for consumptive patients than north of Atlanta. Macon, and that part of Georgia fifty miles north of the coast, and extending through Georgia and Alabama to the region of Mobile, are good localities. Quite early in the spring one can come northward. Coming north of that range of mountains into the valley this side of North Atlanta, to Marietta, one finds a delightful spring climate, with a great deal of sunshine, and a forest filled with bloom for two months in the spring; everything, as far as climate and scenery are concerned, to delight even a sick person. There is much to recommend the region of Chattanooga to invalids, and if they are not satisfied with Chattanooga or the vicinity, there are other points, Marietta, Atlanta, and north of the Tennessee river, the region of Huntsville, and north from that as far as Nashville; so that consumptive patients or invalids may be in a mild invigorating temperature, really all the year, in the space of a couple of hundred miles.

PROFESSOR WM. T. BELFIELD presented a

PROSTATIC MYOMA—A SO-CALLED "MIDDLE LOBE" OF THE HYPERTROPHIED PROSTATE—REMOVED BY SUPRA-PUBIC PROSTATOTOMY.

The patient, a man 73 years old, had for several years experienced difficulty in urination, and for nearly a year had been practically dependent upon his catheter. There was found symmetrical enlargement of the prostate per rectum, dilatation and catarrh of the bladder, and an impediment at the bladder neck to the entrance of rigid instruments. Exploration of the bladder by supra-pubic incision revealed a solid prostatic outgrowth, or "middle lobe," as large as a hazel nut and of flattened pear-shape, springing by a short, narrow pedicle from the vesical orifice. The pedicle was twisted off with forceps and the growth removed. Recovery was uninterrupted, the fistula closing entirely on the seventeenth day. Patient has since urinated freely without a catheter, and can now almost completely empty the bladder; the cystitis has subsided.

PROFESSOR BELFIELD also presented specimens of

MUCOUS CASTS FROM A CASE OF MEMBRANOUS ENTERITIS.

The patient was a nervous, rather hysterical lady about 35 years of age, who for several years had at intervals suffered from severe intestinal colics, followed in a day or two by diarrhœa with the expulsion of these casts; for several days thereafter much soreness and tenderness of the abdomen was experienced. The casts appear under the microscope as amorphous pseudo membrane enclosing cast-off epithelial cells. They are said by DaCosta to give the chemical reactions of mucin. This patient improved materially under small doses of bichloride of mercury and pills of iron, arsenic and strychnine.

He also exhibited a

FOREIGN BODY FROM THE BLADDER;

a roll of chewing-gum, two inches long, partially encrusted with urinary salts, which had been removed from the bladder of a young man by Professor T. W. Miller. The patient, suspecting he had a stricture, had explored his urethra with a well-masticated roll of chewing-gum stuck upon the end of a broom-straw. When the straw was withdrawn the gum had disappeared. Acute cystitis ensued. Attempts to detect and extract the gum with a small lithotrite having failed, perineal urethrotomy was performed and the gum extracted by the finger. The patient entirely recovered in two weeks.

He also presented a

FRAGMENT OF THE OCCIPITAL BONE

of irregular quadrilateral shape, three inches long and two and one-fourth inches broad, its longest edge serrated for articulation with the right parietal bone. The fragment was removed by him from a young man who had suffered a compound comminuted fracture of the skull, by a blow with a sharp iron instrument which had penetrated the brain to depth of over an inch. On admission to the Cook County Hospital, over a teaspoonful of brain substance was found among the hair; the scalp and dura mater were badly lacerated. The fragments of bone were removed, the wounds in the brain substance cleansed and drained, and the scalp wound sewed up. After the fourth day the temperature remained normal; the wound was entirely healed in a month, the dressing having been

changed four times during that period. The scalp is depressed over the seat of fracture, and still pulsates with the brain.

He then also presented a specimen of

INTESTINE COVERED WITH MILIARY TUBERCLES, DEATH HAVING RESULTED FROM MILIARY MENINGITIS.

This specimen is a piece of intestine the peritoneal covering of which is full of miliary tubercles. The patient was a girl about twenty years old, who had always had excellent heath. Three sisters are still living, and neither they nor their parents, nor any of their relatives so far as known, have ever shown symptoms of tuberculosis. The present generation are examples of perfect health, and this girl was in many respects apparently the healthiest of all of them, Until five days before her death her health was as usual; then she complained of feeling ill one evening; her head ached; she vomited, without apparent cause; she lay down, drank a cup of tea and felt all right. The same thing happened the next day, and she complained of extreme headache. On the third day, with the exception of severe headache and vomiting without cause, she maintaind her usual health. The evening before her death she was at a theater, and came home about 11 o'clock and went to bed with one of her sisters. During the night the sister was several times awakened by the extraordinary breathing of the patient, which was very hard and loud. She shook her, and the abnormal breathing ceased. In the morning it was found impossible to wake her; she was breathing very deeply and slowly, and could not be aroused. Physicians were summoned and all of them pronounced it a case of opium-poisoning. The symptoms as related to me were stertorous breathing, sometimes as slow as four or five a minute ,contracted pupils, a suggestion of strabismus, and rather warm surface. The pulse was remarkably good, about 80, similar to the pulse of a healthy person; the skin was not moist and clammy. The physicians instituted the usual measures for opium-poisoning; they gave mustard at once, and as soon as a tube could be procured pumped out the stomach. They injected minute doses of atropine hypodermically; the patient received about a fortieth of a grain in three injections. The breathing improved very much after these

injections, coming up to twelve and fifteen per minute; the pulse also quickened; suddenly the pulse flickered and went out, and the breathing stopped.

On the following day, with the Assistant County Physician, he made a post-mortem examination, which included the head and abdominal cavity only. The brain was not hyperæmic, there was no venous congestion, the pupils were widely dilated; the membranes of the brain were adherent to the brain substance, and on stripping them off and examining them there were found numerous miliary tubercles. On opening the abdominal cavity the intestine bulged out, its surface thickly studded with miliary tubercles; there was extreme tuberculosis of the peritoneum, and the mesenteric glands were large and cheesy; there was a ruptured cyst of the right ovary, about as large as a fist. That the rupture was ante-mortem was evident from the fact that the inner surface of the cyst was intensely congested; there was a good deal of coagulated blood in its cavity. While it would be impossible to say that no opium had been taken, yet it seems probable, when we consider that the pulse was natural, that the surface was not cool and clammy, and that there was a tendency to strabismus, that her death resulted from the tuberculosis, perhaps rupture of the cyst. There was no morphine found anywhere around, and her general disposition and circumstances were such as to forbid the conception by her friends that she could have taken poison. The case seems to have been another instance of sudden coma incident to tubercular meningitis. It is of extreme interest as showing how insidious miliary tuberculosis of the serous membranes may be. The only abnormal feature known to her family was an unusual fullness and hardness of the abdomen, developed during the last year of her life.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, March 7th, 1887.—THE PRESIDENT, EDMUND J. DOERING, M. D., IN THE CHAIR.

PROFESSOR FRANKLIN H. MARTIN read a paper entitled,

HYSTERO, NEURASTHENIA, OR NERVOUS EXHAUSTION OF WOMEN.

After enumerating the symptoms of this disease the author discussed the methods of securing the requisites in treatment

viz.: rest, proper feeding, seclusion and sleep. To carry out these methods successfully the physician must first secure full control and the confidence of his patient. The details of nursing, feeding, the application of massage and electricity must be in the hands of well-trained assistants. Dr. Martin cited the details of the management of a case to illustrate the details of the treatment to be followed in such cases, which in nearly all respects was similar to the S. Weir Mitchell treatment.

DR. J. G. KIERNAN said: He regarded the name adopted as a somewhat useless addition to disease-nomenclature, for it seems that most of the symptoms given are not characteristic of any particular disease other than the common form of nervous prostration occurring in women. Most of the symptoms given as regards the vagina, uterus, etc., are such as one expects to find secondary to nervous exhaustion in females. Dr. Martin has not outlined the difference between a condition of neurasthenia, which occurs in a female of previously sound constitution both from heredity and other standpoints, and the condition of the woman whose ancestors have been the victims of neurosis or hereditary disease, or who has acquired a neurotic constitution. In the first of these forms a great deal can be done by combating the exhaustion, and no better system can be given than that which has been outlined by Dr. Martin. In the last type this treatment is worse than useless. A number of patients whom S. Weir Mitchell had treated afterwards came to the private insane hospital to which Dr. Kiernan was at one time physician. With this class of patients the trouble is with the brain, and in most it is congenital. In them the *ego* is of superlative development; they are perfectly willing to be petted and fussed over, but that simply tends to develop the egotism in certain directions. In this class of cases massage is peculiarly noxious, since in many of them there is a sexual element which is likely to be increased by massage, as has been pointed out by Marrell and others. In regard to medicinal treatment, Dr. Martin has not indicated the danger of inducing habits in some of these cases by the prescription of morphine and alcohol, as Dr. Mary H. Thompson some years ago pointed out in this society. Many a neurasthenic person has become the regular inmate of an inebriate asylum or home for opium-habitues, because some physician has prescribed opium or alcohol for the treatment of insomnia.

PROFESSOR A. E. HOADLEY read a paper on

DEEP-TUBING OF THE LARYNX AS A SUBSTITUTE FOR INTUBATION, WITH A REPORT OF NINE CASES.

In these cases the tube was introduced so that the head of the tube rested within the larynx. Eight of the cases were able to drink consecutive swallows immediately after the operation. While all the cases were fatal, the deep intubation gave the greatest relief. Professor Hoadley believed the most objectionable feature in the O'Dwyer method is the projection of the head of the tube over the top of the larynx, interfering with deglutition and exciting cough. This he proposes to obviate by "deep tubing," which he accomplishes by modifying the tube as follows: shortening the tube to nearly the length of the larynx, making the head of the tube conform more nearly to the interior of the upper part of the larynx. Making the upper surface of the head of the tube cup shaped to facilitate the introduction of the extractor, having that portion of the posterior border of the tube corresponding to the arytenoid cartilages stand on a plane anterior to that of the rest of the tube, so that pressure at this point will be slight, making the obturator three-eighths of an inch longer than the tube to facilitate the deep introduction of the tube. The long tubes, owing to the mobility of their lower ends, produce irritation in the trachea, exciting cough and pain.

PROFESSOR F. E. WAXHAM opened the discussion, and said he took that occasion to present a bronchocele which produced death by pressure on the trachea. The history of this case, briefly, is this: The patient was a girl 14 years old; she had been troubled with a goitre for about a year, which increased rapidly in size, and the people observed that it was at times larger than at others, more particularly after the child had taken cold; but still the goitre gave no inconvenience until three days before death, when it is stated the child had taken a slight cold and the tumor became larger. With increase in the size of the tumor and the consequent pressure upon the gland by the sterno-thyroid muscles, great dyspnœa resulted. The patient was attended by Dr. J. G. Berry, who recognized the true condition, and on the third day called Professor Waxham to perform intubation. The child was in most desperate condition; indeed, it was moribund, the pulse was feeble, rapid and thready, hypotastic

congestion had already occurred in the lungs, and the child was semi-comatose. While in this condition the largest size intubation tube was introduced into the trachea, but it failed to give relief simply because the tube was not of sufficient length. It would not reach through the stricture, and from the pressure of the gland, as rapidly as it was pressed down in position so rapidly would it be pressed up again. The child was so near dead that tracheotomy was thought to be useless. To meet such emergencies he had a much longer tube constructed, one that will pass entirely through such a stricture and consequently give perfect relief. The object in performing intubation in cases of bronchocele would be to give immediate relief, and to give time in which we might perhaps reduce the tumor by electrolysis or the internal and external use of iodine; or these measures failing, we could then leisurely enucleate the gland. Bronchocele may produce death by pressure laterally, or by suffocation from pressure upon the trachea anteriorly; or a lobe of the gland may develop between the œsophagus and trachea and produce pressure posteriorly. In this case the pressure was exerted laterally. Coming more particularly to the discussion of the paper presented to-night, he thought it should not go without a few words of criticism. As intubation has been performed nine times without success by this new procedure, he would feel that there is little to recommend it. First, in regard to the position of the tube; the author recommends that the tube be reversed, and instead of placing it with the beveled surface forward and the shoulder projecting backward, he recommends the tube turned so that the shoulder will project forward and the beveled surface backward. A case has been reported in which there was complete perforation at the base of the epiglottis from the pressure of the beveled surface of a straight tube. The most nearly perfect tubes are now made with the upper surface curved slightly backwards so that no pressure will be exerted upon the anterior wall. If we turn the tube around and place it with the projecting shoulder forward, how much greater must be the danger from ulceration. Again, he said, the author refers in his illustration to a tube with a shoulder broad posteriorly, a tube that was discarded some time since, for it has been found that a tube with an olive-shaped head fits the

larynx much better than the old tube. He believes that the author is mistaken about the head of the tube riding high and resting upon the arytenoid cartilages. It depends altogether upon the judgment used in the selection of the tube. If a tube is used larger than is appropriate for the age of the patient, it will be found that while the tube can be passed into the trachea without difficulty, yet the head will not sink into the larynx, and then it will ride high and swallowing becomes very difficult, but if the tube has an olive-shaped head and is appropriate to the age, then it will sink into the cavity of the larynx, resting upon the vocal cords, and swallowing is attended with but little difficulty. In regard to the length of the tube, it would seem to me that little would be gained by making it shorter; indeed, this was one of the reasons of Buchot's failure thirty years ago. One can readily see if we use a short tube, one simply projecting through the larynx, there would be much greater danger from detachment of false membrane below the tube. He said that in offering these criticisms it was with no unkind intent, or for the purpose of discouraging attempts at improvement. He said, also, that whilst he had performed this operation over one hundred times, and with a success rarely attained by tracheotomy, yet he does not consider the instruments perfected.

PROFESSOR CHRISTIAN FENGER said he would not say anything about intubation of the larynx according to Dr. Hoadley's method, further than if there is a possibility of avoiding the difficulty in swallowing, then that is a very important point. And if a change in the position and shape of these tubes will help us to avoid that, it will make intubation still much more valuable than it has been heretofore. But he would say a few words in regard to goitre, as Dr. Waxham had shown the very interesting specimen, and as this is of great importance. As Dr. Waxham says, pressure from the goitre on the trachea causes the so-called sabre-sheath trachea with the subsequent stenosis, either from pressure or from softening of the rings from pressure and atrophy. And that is not the only danger in goitre. There are goitres where the trachea is perfectly open, and still a too-often fatal dyspnœa occurs. Those are the cases where the recurrent laryngeal nerve is affected by pressure from the tumor so as to cause symptoms of posticus paralysis. Thus we see cases where extirpation of the goitre has been made to relieve respiratory difficulties. We see that thus the respiratory difficulty re-

mains in spite of the removal, sometimes for a time, sometimes forever; the latter when no repair of the nerve is possible. Besides these two classes of danger to goitre patients, there is a third met with, of course only in severe cases. It consists of a spasm of the glottis severe and continuous enough to terminate in sudden death. How this spasm originates is as yet unknown. The authors who have paid most attention to this subject feel inclined to believe that pressure from the goitre on the pneumo-gastric nerve causes irritation of the vagus center of the brain, and reflex contraction of the muscles of the glottis. These are the cases where goitre patients in apparently good health, with no dyspnœa, or with a slight occasional attack, will die suddenly. For instance, a patient is well and around amusing himself during the day, and in the night a sudden dyspnœa sets in and the patient dies before anything can be done. Intubation with the long tube in a goitre patient shown by Dr. Waxham may be of very great importance as a means of relieving suffocation-attacks in goitre.

PROFESSOR FERDINAND HENROTIN said his position is very strongly in favor of that taken by the author of the paper; his experience has been directly the opposite of that of Dr. Hoadley. He had only had a few cases, but if they are of any importance in elucidating the point, he would take pleasure in giving them. He believes in having the tube facing in the way mentioned in the paper. His first case was about a year ago, the patient being brought to him from out of town. As it was his first case he took particular pains to follow the regular method as pointed out by those who had introduced it, and so introduced the tube with the upper face looking forward and upward, that is, the upper plane at the entrance. The child threw up the tube within ten minutes. He immediately replaced it, and while the patient remained in the office he was perfectly free in his breathing and entirely relieved from stenosis. In spite of endeavors to have him remain, he was taken to his home in the country, the tube remaining in place. About eight o'clock the next morning he coughed up the tube. He was all right for an hour, then he began to choke up again, and in another hour died from stenosis.

In another case he had immediately after, there was no relief. He introduced the tube four different times; he had it in the larynx and it remained in positition, but the child was not relieved. He had intubed a third child, and it died.

The three cases were all with the tube in the way mentioned by Dr. O'Dwyer, and they all died. Following that he had three successful cases, and the tube was introduced the other way, facing in the other direction. In one of the cases he had no particular trouble in taking the tube out, but he had more or less trouble in introducing it, a little more than the other way. These cases all recovered. He had a case that recovered, a child of seventeen months, who retained the tube four days and coughed it up himself. Following that he again resumed the method of Dr. O'Dwyer, and placed the tube in the other direction, and that child died. In another case he was called to place a tube, and introduced it without difficulty; a little less than twenty-four hours after putting in the tube, according to the O'Dwyer method, it was coughed up by the patient. He then replaced the same tube, facing the other way, and the patient had no difficulty as yet in retaining it. He had four cases intubed by the O'Dwyer method, with four deaths; three cases with the tube turned the other way, all recoveries; probably a coincidence to a great extent. The eighth case has not progressed far enough to state whether the child would recover.

In regard to the advantages of this method, he had never had but one tube coughed up that was put in in that way, but the child recovered. The tube seems to hold much better, it sinks into the larynx and in most cases disappears, so that one cannot feel it with the finger, while if it is turned the other way one can feel the edge of it with the finger.

So far as the extraction of the tube is concerned, except in two instances, he had no particular difficulty. As regards swallowing liquids, he thinks it is speaking strongly to say that the patients can swallow. He feeds his patients on semi-solids, that slip down easily, and gives little pieces of ice to quench the thirst.

The disadvantage that attaches to the short tube is that the expulsive effort at coughing frequently causes it to be coughed up. The length and weight of the tube must be an element in keeping it in place. He believes that too small tubes are being used. He uses the second size in a child of four years.

PROFESSOR E. FLETCHER INGALS said he had no prac-

tical experience in putting in the tube the wrong way, and does not know how well it may turn out, but anatomically it is certainly wrong unless the shape of the tube be modified. It may be that with the head of the tube modified it would sink into the larynx, as recommended by the author of the paper; but with the tube as constructed by Dr. O'Dwyer it does not seem a safe procedure to insert it wrong side foremost, for fear of pressure upon the epiglottis causing ulceration. As to the effects of deglutition, if the tube fitted and would set deep in the larynx and remain there, of course the patient could swallow more readily. It seems to have been the experience of the last speaker that these patients do not always swallow readily even when the tube is seated deeply in the larynx, and Professor Ingals inclined to believe that unless some device can be invented to prevent the entrance of fluid it is better that the patient should take none. Where he had introduced the tube it has been for other physicians, so that he had usually been unable to watch the subsequent treatment; but in those that had recovered he had insisted that they should drink absolutely nothing. The child will want to drink very badly after the first twenty-four hours, but it is not a necessity for a few days. If no fluid is allowed the patient is not nearly as likely to have bronchitis or pneumonia as when it is permitted to drink. The child may have ice, it may have enemas, and may have soft solids in abundance. As to the length of the tube, he agreed with the last speaker that the long tube is the better. One of Buchot's mistakes was that he made his tube too short. But the principal reason for his failure was that he attacked tracheotomy; he not only wanted to introduce his tube, but he wanted every one else to stop tracheotomy. He inquired what success Dr. Waxham had had with the rubber collar in preventing the entrance of fluids into the air passages.

DR. JOHN W. NILES said his observation leads him to think that it does not make very much difference which way the tube is introduced as regards the patient's ability to swallow fluids. In neither way can this be done without exciting cough. In the two cases in which Dr. Henrotin had introduced the tube for him he introduced it the wrong way, and they swallowed fluids better than it had been expected

they would. The next case Dr. Niles introduced it the wrong way. The child had more difficulty in swallowing than the others had. On the third day he coughed the tube up, and when reintroduced it was in the way recommended by Dr. O'Dwyer, and there was a marked improvement in his ability to take liquids. In fact, he swallowed better than the other two. He succumbed to the disease six days after the tube was first introduced.

PROFESSOR F. E. WAXHAM said, in regard to the rubber attachment which he had recently devised, he believes it to be a great improvement. Some may not desire to use the artificial epiglottis attached to the rubber collar, in which case it can be removed and the tube will still be a great improvement, inasmuch as, the head being small and surrounded by the rubber, it will fit the larynx more perfectly, there will be less irritation, and ulceration will be impossible. He believed that he recently saved two little patients in which this device was used, and had also employed it in other cases with advantage. He agreed with Professor Ingals that it is best to keep water from the little patients as far as possible. Let a small piece of ice be placed in a cloth and held in the mouth. This relieves the urgent thirst without causing the frequent coughing that arises from the endeavor to swallow water.

PROFESSOR HOADLEY, in closing the discussion, said: As mentioned in the paper, he had started out in the matter of intubation on his judgment as to the position the tube was designed to take in the larynx, for he had not given the subject sufficient attention to remember that the tube was designed to rest high in the larynx, and his experience has been so pleasant, so far as the non-interference with the function of the throat is concerned, that he decided in his own mind that deep tubing is preferable to intubation. The cases that he had tubed in that manner were all bad ones; not in a single one could a favorable prognosis be given. They were all promptly relieved, and that was all one could expect to attain from the tubing. The only advantage that the long tube can have over the short one is its weight, except in rare cases, and then its length is of advantage. In the majority of cases of laryngeal stenosis the obstruction is entirely in the larynx, and when it does extend down into

the trachea the probabilities are that the child will die of continued extension, and in such a case the long tube can be introduced. In the nine cases tubed in this manner he had used the long tube, so that he could not say whether the short one would have relieved the stenosis. In one autopsy where there was laryngeal diphtheria there was no diphtheritic exudation in the trachea, so that the extension of the tube to the seventh ring was unnecessary. In reference to the position of the tube resting against the epiglottis, as in the O'Dwyer method, he would state that the epiglottis folds down and bears first upon the shoulder of the tube, then closes its orifice, but it cannot perfectly close the larynx. Dr. O'Dwyer has had ulceration of the epiglottis with perforation. One might think it would be a great deal worse to turn the tube around—that the pressure would be greater upon the epiglottis; but when the tube is turned around it goes half an inch lower, and the projection of the tube that is supposed to touch the epiglottis does not touch anything, and the mucous membrane is not pressed upon at all. Introducing the tube in the O'Dwyer method it will not go into the larynx; one can push it down and still it can be felt above the larynx, so when the epiglottis folds over, it must necessarily come against the tube. By turning the tube around, sinking it well into the larynx, it goes down so far that in a small larynx one cannot touch it with the finger; it goes down as far as the attachment of the apex of the epiglottis with the thyroid cartilage. The epiglottis folds down over the larynx, the laryngeal tube is still free below it, resting on the vocal cord, so that it can produce no ulceration of the epiglottis. As to the vocal cords, Dr. O'Dwyer says that ulceration is rare in that situation. That is because the pressure is slight, and not attended by friction, as in the epiglottis. Northrup says one must press the tube well down into the larynx. In doing this it rests against the epiglottic cartilage and its projection presses back against the arytenoid cartilages, pressing them wide apart in the most disagreeable manner. It is like putting the right foot into the wrong boot. It does not fit or rest easy at any point. Turn the tube around and it rests comfortably in the larynx without one point of pressure; the only pressure induced is that of swallowing, which is not sufficient to pro-

duce ulceration. To facilitate extraction he had constructed a cup-shaped depression on the head, instead of the oval convex surface with the hole directly in the summit. With the oval head, unless one strikes the aperture itself, one is not likely to find it, as the extractor will invariably glide to the outside of the tube. With the cup-shaped head, partly from the tube being surrounded by the larynx, the extraction is greatly facilitated. His patients, with the one exception mentioned, had all been able to drink fluids; two or three swallows without coughing. Occasionally there was some irritation; they would drink a large swallow and cough, immediately drink again and then cough, but not one refused to drink. The object of the rubber collar with its valve-like attachment is to close the orifice of the tube. Inasmuch as the epiglottis will close the tube by its automatic action of folding down over it, he regards the rubber top as being useless; not only useless, but he believes that the valve, standing up in constant apposition with the epiglottis, is a source of additional and continued irritation.

HOSPITAL REPORTS.

TWO RECENT AUTOPSIES, AT COOK COUNTY HOSPITAL. REPORTED FOR THE *Journal and Examiner*. *By* ELBERT WING, A.M., M.D., PATHOLOGIST TO THE HOSPITAL.

For the sake of brevity, only those conditions in these cases which are of special interest are reported in the descriptive form in use in the hospital records, the other pathological conditions being mentioned only as they are described in the diagnosis.

Case No. 1.—The patient was brought to the hospital by the police patrol in a state of coma, and died thirty minutes after admission. The officers in charge knew nothing of the history of the case, and no friends appeared to claim the body.

The autopsy was made thirteen hours after death. The body was that of a man about forty years of age, with a moderate amount of emaciation. Rigor mortis was slight, and there was marked icterus in the sclerotics and in the skin about the head, neck and upper part of the thorax. There were no marks of violence, and the abdomen was only moderately distended.

The abdominal cavity contained 750 c.c. of clear, dark brown serous fluid, and each pleural cavity contained 420 c.c. of similar fluid. The appearance and contents of the pericardial cavity were normal.

The right auricle contained a small quantity of dark, clotted blood, and the right ventricle was distended by similar contents. The left auricle and ventricle contained a small quantity of similar blood. The valves of the heart were all slightly thickened. The endocardium was in the condition described as chronic endocarditis, and there were a few small spots of atheroma at the base of the aorta. The muscular tissue of the heart was somewhat pale, and the size of the organ normal.

The visceral and parietal layers of the pleura were united by firm adhesions over almost the entire upper lobe of the right lung, and there were a few firm bands over the rest of the surface of both lungs. There was marked œdema in the upper lobe of the right lung and hypostatic congestion in the lower lobes of both lungs.

In the spleen there were two abscesses, the size of a pea, and the organ was otherwise in normal condition.

On the posterior surface of the left kidney there was a white nodule, which upon section was found half imbedded, and the size of a filbert. This tumor was of a glistening white color, rather soft, contained no large blood vessels, and did not have a hyperæmic border. The cut surface presented an appearance of fine fibrillated, somewhat concentric structure, which, however, could be made to disappear upon stretching.

Upon microscopical examination, this tumor was found to be a round-celled sarcoma. At its circumference there was a moderate degree of acute parenchymatous nephritis, and there was no well-defined line of demarcation between the tumor and the proper structure of the kidney. There were several similar tumors, the size of millet seed, in the vicinity

of the large nodule. With the exceptions already mentioned the kidneys were apparently in normal condition.

The liver extended 10 c.m. in the right linea mammalis below the costal cartilages, and was firmly adherent to the diaphragm, duodenum, pancreas and the pyloric end of the stomach. The surface was mottled, with large, bluish-red and icteric patches. The greatest relative increase in the size of the liver was its thickness, which was 15 c.m. About 4 c.m. from the median line of the body, and just below the costal cartilages, there was a marked and somewhat conical swelling of the surface of the liver. Over this area of 4 c.m. there was distinct fluctuation on palpation, and several small, yellowish-white spots, which had the appearance of points in an abscess about to rupture spontaneously. The principal section of the organ was made through this swelling, and revealed an abscess 12 c.m. in diameter in the right lobe, containing thick, stringy, greenish-yellow pus of a slightly sweetish odor. After this cavity was freely washed out, there remained upon its walls a coating of tough, stringy pus, say 10 m.m., thick, from which larger ropes, or strings, of pus hung, which could not be dislodged by a stream of water of considerable force. For a distance of 5 m.m. around the abscess, the liver tissue was markedly hyperæmic. The appearance of the cut surface of the organ generally was that of chronic passive hyperæmia.

The gall bladder was one-third full of bile, and the ductus communis choledochus was freely open.

The stomach and small intestine presented only normal appearances. The mucus and submucous coats of the cæcum and of the lower half of the ascending colon was very

extensively ulcerated. The ulcers varied in size, from a pin-head to a lima bean. They were both round and oval in shape, the edges were slightly raised; the bases red, and the flow smooth. In the cæcum they were almost confluent, but they became smaller and less numerous toward the transverse colon. The transverse and descending colon were in normal condition.

With the exception of a considerable œdema of the pia mater, especially marked over the right frontal lobe of the cerebrum, the examination of the brain revealed no pathological conditions.

It is perhaps worth while to call attention to the fact that the abscess of the liver was single, and the ulceration of the colon confined to the upper portion ; while in abscess of the liver, resulting by thrombo-phlebitis from ulceration in dysenter, the abscesses are multiple, and the ulceration more severe at the lower end of the colon.

The sarcoma of the kidney was primary, probably developed, as described by Grawitz, from the internal layer of the capsule of the organ. Such sarcomata very rarely occur.

In consequence of the findings of the autopsy, the following diagnosis was given, viz : Œdema of the pia mater; chronic endocarditis with atheroma ; double chronic pleuritis with double hydrothorax ; œdema of upper lobe of right lung with hypostatic congestion of both lungs ; multiple abscesses of the spleen ; primary sarcoma of left kidney ; abscess of the liver ; colitis with ulceration of cæcum and ascending colon.

Case No. 2 was that of A. B., 35 years old, admitted

November 8th, the diagnosis being typhoid fever. The attack was considered a light one, and the patient was allowed to get up on November 28th. During the month of December he spent his time partly in bed and partly sitting up in a chair. During this period the progress of the case was imperfectly recorded. From January 1st to 12th the temperature ranged from 99° to 100°.2 F. On January 12th, at 12 p. m., the pulse rapidly rose to 120°, the temperature, rectal, to 105°.2, and the respirations to 32. The following record is a copy of the history-sheet of that date, all degrees of temperature given being according to the Fahrenheit scale, and taken in the axilla :

"January 13th, 1:30 a. m., T. 104°.5 ; 2:45 a. m., T. 104°.4 ; 3 a. m. placed in ice pack ; 3:30 a. m. T. 104°.2 ; 4:45 a. m., T. 103°, pack removed ; 4 a. m. T. 103°.5 ; 6 a. m., T. 101°.8; 8 a. m., T. 99°.6; 9:30 a. m., T. 101°.8; abdomen markedly tympanitic and tender, patient vomiting frequently ; 6 p. m., P. 20, T. 101°.4; 9 p. m., P. 120, T. 101°.5 ; 11:45 p. m., T. 98°.6. Jan. 14, 2 a. m., T. 102.8 ; 4 a. m., T. 100°.2 ; 6 a. m., 98°.8 ; in state of collapse all day ; 9 p. m., T. 96°.8, death."

Owing to unavoidable delays, the autopsy was held four days after death. The condition of the organs revealed by the post mortem examination was as follows, viz:

There was chronic myo-endocarditis, with fatty degeneration of the muscular tissue of the heart. Double acute parenchymatous nephritis, with a few firm, white, round spots in the pyramids of the kidney. These spots were as large as a grain of wheat, uniform in appearance throughout their extent, and were what Virchow has called localized

interstitial nephritis. Acute parenchymatous hepatitis. Acute parenchymatous splenitis. The abdomen was only slightly tympanitic. There was a small quantity of somewhat turbid serous fluid in the abdominal cavity, which contained a moderate amount of flakes of fibrin. The small intestines were matted together by recent and soft adhesions, and in the left iliac region, near the median line, there was a recent adhesion between the intestine and the abdominal wall. The area of this adhesion was 3 c.m. in diameter. There were several recent, but slight, adhesions betwen the liver and the diaphragm. On the parietal surface of the perito neum there were a number of large, bluish-red patches, the surface of which had a villous or velvety appearance, and in these patches, and also on other parts of the surface, the vessels were filled with blood, and presented a dendritic appearance. That part of the peritoneum covering the intestines presented a similar appearance.

The intestines contained a small quantity of homogeneous, yellow fluid fæces. A small number of the solitary glands, and two of Peyer's patches, were infiltrated and slightly raised above the surface of the intestine. In the ileum, 20 c.m. from the ileo-cecal valve, which point corresponded with that of the adhesion between the intestine and the abdominal wall already mentioned, there was a round perforation of the intestine the size of a slate-pencil. With the exceptions already mentioned, there were no lesions in the intestinal canal.

This case emphasizes very strongly one interesting and one important point in connection with cases of typhoid fever. It is interesting to observe that the number of ulcers in an unmis-

takable case of typhoid fever may be small—in this case one. It is important to remember that in cases of slight severity, because of the very mild character of the symptoms, physician, nurse and patient are apt to be careless, and thus frequently make them the most dangerous ones.

3266 Cottage Grove avenue.

ITEMS.

The Twenty-seventh Annual Meeting of the Illinois State Medical Society will be held in the Methodist Church Block, corner Clark and Washington Streets, Chicago, beginning May the 17th, 1887, at 10 o'clock A. M.

INTERNATIONAL MEDICAL CONGRESS.

Professor J. J. Chisolm, M.D., of Baltimore, Md., has been elected President of the Section of Ophthalmology of the Ninth International Medical Congress, in the place of Professor E. Williams, who was compelled to resign on account of ill-health.

Judson B. Andrews, M.D., Superintendent of the Hospital for the Insane, Buffalo, N. Y., has been appointed to the office of President of the Section of Psychological Medicine and Nervous Diseases, made vacant by the recent death of Professor John P. Gray.

No vacancies now exist in the principal offices of the Preliminary Organization of the Congress or of its sections. The latest information regarding all departments is of the most encouraging character.

HOSPITAL APPOINTMENTS.

The annual competitive examinations for the positions of internes at the various Chicago hospitals occurred during the past month, and resulted in the following appointments:

Cook County Hospital—Dr. Buffluer, Dr. J. Hillmantel, Dr. G. J. Kaumheimer, Dr. W. H. Allport, Dr. L. Hektoen,

Dr. C. E. Earle, Dr. A. B. Hart and Dr. Rachel Hickey.

St. Luke's Hospital—Dr. F. Holden and Dr. Edward E. Kerr.

Eye and Ear Infirmary—Dr. G. E. Brinckerhoff.

Michael Reese Hospital—Dr. Stehl and Dr. Greensfielder.

Mercy Hospital—Dr E. E. Kerr and Dr. G. W. Whitfield.

Presbyterian Hospital—Dr. A. J. Mellish and Dr. C. W. Ward.

Woman's Hospital—No appointment.

COMMENCEMENT EXERCISES AT THE CHICAGO MEDICAL COLLEGES.

At the recent commencement exercises the four regular medical colleges in Chicago have graduated 253 students.

The annual exercises of Rush Medical College were held in Central Music Hall, February 15th, at which time 132 students were graduated.

On February 21st, the College of Physicians and Surgeons held its commencement exercises in the Grand Opera House, and graduated 52 students.

At the annual commencement exercises of the Chicago Medical College (Medical Department of the Nortwestern University), held at Central Music Hall on March 29th, there were 44 graduates.

The Woman's Medical College held its seventeenth annual exercises in the Grand Opera House on April 5th, with a class of 25 graduates.

EXTRACTS.

THE SURGERY OF THE PANCREAS.

The most important surgical paper of last year, in this country at least, was read by Dr. Nicholas Senn, of Milwaukee, before the American Surgical Association at its last annual meeting, and has now been issued as a reprint from the "Transactions of the Association." Those who are familiar with former papers of Dr. Senn, with the records of his careful experiments, and with his lucid style, need not be told more as to the importance of the paper. But whether our readers be or be not familiar with his writings, they will at once recognize that a carefully written paper of 129 octavo pages on the surgery of the pancreas must contain much valuable material, and positive additions to our knowledge of this very obscure subject. The surgery of the pancreas has no history except as to the treatment of a few cases of cysts of the gland, but the results in these cases have been so encouraging that there is much hope for the future of the surgery of the organ.

The experiments of Dr. Senn as to complete section of the pancreas tend to show that this lesion, unless complicated by other and more serious lesions, is not dangerous to life if the chief source of danger, hæmorrhage, be properly treated. "The co-aptation of the divided ends would be desirable, but is not essential, as the continuity of the duct is not restored after this injury." No disturbance of digestion was noted in either of the two experimental cases, since a sufficient amount

of pancreatic juice was secreted from that portion of the organ in communication with the intestine. In case of this injury the most important indication is to arrest bleeding, and to suture the two cut ends of the organ so as to keep them in place, and thus maintain normal blood-supply. In an experiment with regard to the effect of laceration of the pancreas death resulted from the accidental re-opening of the abdominal wound. "Hæmorrhage was arrested spontaneously, and the process of repair, so far as the wound in the pancreas was concerned, appeared to be satisfactory. The divided ends were displaced considerably immediately after the laceration, but were subsequently brought into close contact by the cicatricial contraction." Believing that putrefaction cannot occur without specific germs, Dr. Senn crushed the pancreas of a cat to the extent of two inches in order to test the matter. The animal lived until it was killed, on the eighty-sixth day. It was found that the crushed portion was removed by absorption, which seems to be very rapid in this locality, and which may be explained by assuming that the peritoneum takes an active part in the process. No infection took place, nor could any evidence of putrefaction be found. "Subsequent degeneration, atrophy and sclerosis, take place in that portion of the gland which is no longer connected with the intestine by a permeable duct."

It was found that complete extirpation of the pancreas is invariably fatal, though Schiff has asserted the contrary; and it is important to know that in the two specimens from experiments which showed evidence of gangrene, this was seen on the convex surface of the bowel, but did not in either case involve the entire diameter of the intestine. Surgically speaking, partial extirpation of the pancreas is less serious than

complete removal, though physiologically the consequences may be the same if the portion removed embrace the common duct or the two principal ducts from the two portions of the gland. In all of Dr. Senn's experiments the common duct was removed with the excised portion, and thus left the animal, physiologically, without a pancreas. In two cases the animals lived long enough to show the influence of the pancreatic juice upon digestion and assimilation. In each of these animals "the general health and nutrition remained unimpaired for four weeks, when emaciation, with fatty stools, followed, which resulted in death from marasmus in one, after seventy days, and reduced the second to a skeleton in 126 days." As from the beginning no pancreatic juice passed into the intestine it is difficult to account for the good condition of the animals for the first four weeks. Had the marasmus been due to the resection of the mesentery of the duodenum, by diminution of intestinal absorption, it should have begun earlier. We may assume that the pancreatic tissue left continued to secrete until it was incapacitated by degenerative changes; and with this assumption we must believe that the pancreas could absorb its secretion, and that this, entering the circulation, must have had some influence upon digestion. It is also important to know that in one case almost the whole duodenum was suddenly deprived of its blood-supply, and yet gangrene did not occur, as collateral circulation was set up by the development of two vessels in a band of cicatricial tissue along the concave surface of the bowel.

Seventeen experiments were made to prove the feasibility of ligation of either portion of the pancreas near the common duct as a surgical measure, and the regularity with which the pancreatic tissue is removed by degeneration and absorption

of the detached portion of the gland. The ligatures used were of rubber. In every case in which complete physiological detachment was produced by the ligatures, resection, crushing, or any other means, atrophy followed. In no case was anything like a cyst produced. The facts of this atrophy and the non-formation of cysts showd that "in operations upon the pancreas it is not essential or necessary to remove peripheral portions of the gland, for fear that if any of the parenchymatous structure should remain a retention cyst would follow. In partial resection for injury or disease it would be advisable to ligate the peripheral portion, and permit it to remain, as it would lessen the danger by the infliction of less traumatism, and we can confidently expect that it will be removed in a short time by absorption." So also the important pathological question of retention cysts is settled by the experiments; such cysts cannot be due to obstruction of the duct. Again, we are taught the importance of removing those portions of the organ which are not supplied with blood-vessels rather than to trust to absorption, as dead pancreatic tissue is very putrescible.

Experiments were made for the purpose of studying detached portions of the pancreas, and the method of operating in these cases is worthy of the attention of physiologists, though it need not be detailed here. The experiments showed conclusively that when a portion of the pancreas is separated secretion continues until complete degeneration and absorption have caused the disappearance of the parenchyma. "That the atrophy in the part of the organ which has been detached from its connections with the intestine is not due to a traumatic interstitial pancreatitis is proved by the normal appearance and structure of the remaining portion of the

gland which has retained its anatomical and physiological relations to the intestine": which again supports the author's view that physiological detachment of any portion of the pancreas is invariably followed by degeneration and complete atrophy, consequently also by complete cessation of functional activity. Eleven experiments were made for the purpose of determining the action of the pancreatic juice on the peritoneum. In only two of the cases was death caused by purulent peritonitis, and the results justify the conclusion that normal pancreatic juice does not cause peritonitis when brought into contact with the peritoneum; and the further conclusion that such juice is absorbed. The duodenum in these cases was denuded of its mesentery, and thus of its vascular supply, for from one to three inches, but no gangrene occurred. One experiment showed that even if no pancreatic juice be produced, digestion may remain good; and the ligation experiments show that the introduction of normal pancreatic juice into the circulation is not harmful, and may be tolerated for two or three weeks without bad consequences.

It has already been seen that crushing and laceration of the pancreas are not of themselves necessarily fatal; and if, during an exploration for abdominal injuries, this organ be found extensively crushed, "it would be good surgery to remove the crushed portion after preliminary ligation of the organ on each side of the comminuted portion. Ligation of the pancreas can be safely done with a single catgut or silk ligature, as the friable texture of the organ will permit of burying the ligature deeply." Crushed pancreatic tissue and pancreatic juice must be removed to prevent traumatic infection. In a case of prolapse of the pancreas, if the prolapse be recent and there are no signs of inflammatory or other changes, it should

be thoroughly disinfected and replaced with great gentleness; and if reduction be difficult the wound should be enlarged. Should the organ be in an inflammatory or gangrenous condition "the parts should be thoroughly disinfected and the organ pulled further into the wound until healthy tissue is reached, when a ligature is applied and the diseased portion removed with the knife or scissors. After thorough disinfection the stump is dropped into the abdominal cavity and the external wound closed. Thorough primary removal of infected tissue is the only safety against subsequent extension of the infection to the peritoneal cavity, and the only guarantee for primary union of the abdominal wound." Gangrene, one of the terminations of acute inflammation of the pancreas, may also be included among the diseases of the pancreas which may be treated by surgical measures; inasmuch as spontaneous recovery has followed the elimination of the necrosed organ, it seems not unlikely that timely removal of the necrosed pancreas would add to the chances of recovery. It should not be forgotten that the pancreas may be a part of the intussusception in a case of invagination, and in abdominal section for the relief of this condition the pancreas should not be overlooked. In searching for the cause of this condition, or that of peritonitis, when it is found that the primary disease is located in or around the pancreas radical measures should be adopted when practicable. "Whenever the sac can be stitched to the external incision this should be done, and the sac opened, disinfected, and drained. Search should be made for the necrosed pancreas, and when found detached it should be removed. As in most of these cases the retroperitoneal tissue is extensively infiltrated, a counter-opening should be made in the lumbar region above the kidney, and thorough drainage estab-

lished. If an anterior abdominal fistula cannot be established, the course to be pursued should be the same as in treating a pancreatic abscess under similar conditions."

In a subsequent issue we will notice that portion of this valuable paper which deals with other pathological conditions of the pancreas.—*Journal of the American Medical Association.*

EXPERIMENTS IN TRAP-SIPHONAGE AT THE NAVY MUSEUM OF HYGIENE.

Repeated experiments on trap-siphonage have shown beyond question that the ventilation of soil-pipes and traps is a safeguard against the entrance of sewer gas into dwellings except in unusual contingencies, provided the general plan of the drainage and sewerage is correct and the workmanship good. The experiments at the Navy Museum in Washington have confirmed the results of those reported to the National Board of Health by Philbrick and Bowditch, and are stated in the following terms:

1. The seals of ventilated traps are safe against siphonage and back pressure.

2. The seals of unventilated traps are never safe from siphon action or back pressure, except in deduction four.

3. The vertical vent should be three inches, with a four-inch soil-pipe.

4. Traps connected on a horizontal pipe and fixtures discharging on the same level into horizontal pipe, apparently have no effect on unventilated traps.

5. All varieties of non-mechanical traps are more easily affected by back pressure than by siphonage.

6. The ball traps were not affected by back pressure, but by siphonage.

7. The Sanitas trap withstood siphon action better than

any of the patent traps, but was easily affected by back pressure.

8. The sewer air is more liable to enter unawares by back pressure through the seal of the trap, because the seal remains unbroken.

9. Difference in friction of iron and lead pipes made no apparent difference in the effect on the traps.

We are left in the dark, however, as to the precise nature of the unusual contingencies under which it is admitted that ventilated traps may be siphoned out and the emanations from the sewers enter houses; and Putnam and Waring think that they have shown that the so-called unusual conditions may occur where not in the least suspected, although a patent trap and water-closet intended to meet these "unusual contingencies" might perhaps serve as a bias against entirely unprejudiced judgments in the case.

It is true, however, that the approved methods of plumbing are now so costly as to make them practically unattainable to many householders, and that, outside of a very simple system of plumbing for moderate-sized houses, it is difficult to know with certainty what is safe and what is not. The Museum of Hygiene, under the Navy Department, has an excellent opportunity to show just what the conditions are by which water-closets and soil-pipes inside a house may be made free from danger, and it is to be hoped that this will be done, no matter what the cost of time or money. If plumbing can be simplified and cheapened at the same time, the benefit to society will be incalculable.—*Medical News.*

THE HOT SPRINGS HOSPITAL.

Several years ago the late Senator Logan visited Hot Springs, Arkansas, and obtained there so much relief from

rheumatic troubles with which he was afflicted that he determined to make the benefits of the place available for the army and navy, and to that end obtained an appropriation for the construction of a hospital at Hot Springs for the use of the officers and men of those services. The sketch plans for this hospital were prepared by Dr. Billings, of the army, and these, after approval by the Secretary of War, were elaborated, and detailed drawings and specifications prepared by a Washington architect, Mr. Smithmeyer. The buildings are now completed, Dr. R. S. Vickery, of the army, has been assigned as surgeon in charge, and a circular from the War Department announces that the hospital will be opened for the reception of patients January 17th, 1887. The circular says:

"Relief may reasonably be expected from the use of the Hot Springs water in the following classes of diseases, viz.: gout and rheumatism in their various forms, after the acute or inflammatory stage has passed; neuralgia, peripheral or central, especially when depending upon gout, rheumatism, specific infection, or metallic poisoning; paralysis, if not recent, progressive or organic; locomotor ataxia, or tabes, if not in advanced stages, and especially if traceable to specific infection; Bright's disease of the kidneys, only in the early stages; diseases of the bladder and urinary organs; functional diseases of the liver; dyspepsia; chronic diarrhœa and catarrhal diseases generally; chronic skin diseases, especially of the squamous or scaly forms; chronic conditions, resulting immediately from specific infection, either syphilitic or malarial; chronic alcoholism.

"In general terms it may be stated that the Hot Springs water acts by stimulating all secretions and organic functions, increasing appetite, promoting digestion and assimilation;

favoring tissue change and excretion of waste products, relieving internal congestions, and stimulating the blood-making function.

"In the following classes of diseases the use of the Hot Springs water is contra-indicated: All acute inflammatory diseases; tuberculosis; organic diseases of the heart and brain; aneurism, cancer and all diseases in which stimulation of the circulation is to be avoided."

The hospital will accommodate about twenty officers and sixty-four enlisted men. Authority for admission to it is to be obtained from the Adjutant General of the army or from the Surgeon-General of the navy.

In Europe it is very common to provide special hospital accommodation at certain mineral or thermal springs for the benefit of the army, but this is the first time it has been tried in this country, and the results will be looked for with interest. It should be possible from the records of this hospital to obtain much more definite information than we at present possess as to the real thereapeutic efficacy of the Hot Springs waters.—*Medical News.*

STANDARD DISINFECTING SOLUTIONS RECOMMENDED BY THE STATE BOARD OF HEALTH OF PENNSYLVANIA.

1. STANDARD SOLUTION NO. 1.—Dissolve chloride of lime or bleaching powder of the best quality (containing at least twenty-five per cent. of available chlorine) in soft water in the proportion of four ounces to the gallon.

2. STANDARD SOLUTION NO. 2.—Dissolve corrosive sublimate and permanganate of potash in soft water in the proportion of two drachms of each salt to the gallon.

(NOTE.—1. This solution is highly poisonous. 2. It requires a contact of one hour to be efficient. 3. It destroys lead pipes. 4. It is without odor.)

3. STANDARD SOLUTION No. 3. — To one part of Labarraque's Solution (*liquor sodæ chloratæ*, U. S. P.), of hypochlorite of soda and five parts of soft water.

(NOTE.—Competent authority has pronounced this superior to all other disinfectants.)

STANDARD SOLUTION No. 4.—Dissolve corrosive sublimate in water in the proportion of four ounces to the gallon, and add one drachm of permanganate of potash to give color to the solution, as a precaution against poisoning, One fluid ounce of this solution to the gallon of water is sufficiently strong. Articles should be left in it for two hours.

(NOTE.—Corrosive sublimate solutions should be kept in wooden or crockery vessels.)

TO DISINFECT DISCHARGES FROM THE PATIENT.

Use standard solutions Nos. 1, 2 and 3, keeping a pint of the solution used constantly in the vessel, ready for any emergency. Let the discharges be passed directly into the solution, and then let a pint more of it be added, and allow the whole to stand for some time before being thrown into the sewer or being buried.

TO DISINFECT CLOTHING, TOWELS, NAPKINS, BEDDING AND SUCH TEXTILE FABRICS AS CAN BE WASHED.

Use standard solution No. 4, *one ounce to the gallon of water*, or use one gallon of solution No. 1 in nine gallons of water. Let the goods soak in the solution for at least two hours — better four hours — before they leave the room. Stir them up so that the solution gets all through them. After disinfection, boil the goods thoroughly.

FOR THE DISINFECTION OF WATER-CLOSETS, URINALS, SINKS AND CESS-POOLS.

CARBOLIC ACID SOLUTION.—Mix one pint of carbolic acid with two and a half gallons of water.

Standard solution No. 4, diluted with three parts of water, may also be used in the proportion of one gallon (of the solution) to every four (estimated) of the contents of the vault. Standard solution No. 1 would require to be used gallon for gallon of the material to be disinfected. Dry chloride of lime may be sprinkled over the contents of a privy, or standard solution No. 2 may be made up by the barrel, and four or five gallons be applied daily during an epidemic. In country places, an excellent plan, and probably the best plan to disinfect a privy, is to cover the contents with two or three feet of fresh earth. Every odor is effectually concealed by absorption in the earth.

TO DISINFECT THE SICK ROOM AFTER IT IS VACATED.

If it is possible let the room be thrown wide open for several days, for a thorough airing. If papered, let the paper be all removed with care Then let all the walls, the floor and the woodwork of the room, as well as the furniture, be washed with standard solution No. 4, one pint to four gallons of water, or of solution No. 1, a quarter of a pint to a gallon of water. Let this work be done most carefully, getting the solution into all the crevices. If any dust be present in the corners and crevices, wipe it out with a rag wet in the disinfecting fluid. *Don't stir it up with a brush or broom.* Last of all, whitewash the walls and the ceiling.

SULPHUR FUMIGATION

is believed in by many as very efficacious. Open wide all

the drawers and closet doors. Hang on lines, opened up as much as possible, all the woolen articles which have been in the room during the sickness and which have not been disinfected and washed, then burn two pounds of sulphur for every thousand cubic feet in the room. Every opening into the room — flues, doors, windows, cracks and crevices — must be closed, except the door by which the disinfector is to escape. The sulphur is to be burned in an iron kettle or other vessel set in a tub containing a little water, to guard against fire. A little alcohol or kerosene must be poured upon the sulphur, by means of which it may be ignited. Leave the room quickly, for the fumes are highly poisonous when breathed, and close the door tightly. Let the room remain closed twenty-four hours or more. Then air thoroughly for several days.

BOOK REVIEWS.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. *Edited by* J. EWING MEARS, M.D. *Philadelphia: printed for the Association, and for sale by*, P. BLAKISTON, SON & COMPANY. *Volume the Third, large octavo, pp. xxxv. 395. 1885. Volume the Fourth, large octavo, pp. xxiii. 339. 1886.*

These two handsome volumes form a valuable contribution to the literature of general surgery.

The first paper of volume one, on "Operative Surgery of the Human Brain," by John B. Roberts, M.D., has been reprinted, a brief notice of which appeared in this JOURNAL AND EXAMINER lii. p. 576. The next two papers, one by Samuel W. Gross, M.D., on "Nephrætomy," collates 233 cases, from public and private sources. The various conditions for which the operation is made are given, with the absolute and relative mortality. The second, by L. McLane Tiffany, M.D., gives the particulars of an interesting case of "Nephrolithotomy" by transverse lumbar incision. The short paper of J. Collins Warren, M.D., has been expanded into the volume entitled: "The Healing of Arteries after Ligature, in Man and Animals," recently issued by Messrs. William Wood & Company, and reviewed in volume liii., page 81, of this journal. The most extensive paper by N. Senn, on "Air Embolism," has already been noticed in our columns. It represents a class of work of which there is too

little attempted in this country. The remaining papers relate to the cultivation of surgical bacteria, the surgery of the hypertrophied prostate, traumatic tetanus, phosphorous necrosis of the jaws, and a device for atmospheric purification. The interesting case of cholecystotomy reported by C. T. Parkes, M.D., is among the most brilliant and difficult triumphs of abdominal surgery.

The discussions are clear and concise, and add greatly to the interest of the papers.

Volume four, though some sixty pages smaller than the foregoing, is not less interesting and valuable in its contents. The more important papers are those on "The Union of Nerves," by Moses Gunn, M.D., an exceedingly interesting paper on "Diagnostitial Laparatomy," by Christopher Johnston, M.D., followed by a discussion in which the worst points in this surgical procedure are well handled. The chief paper is by N. Senn, M.D., on the "Surgery of the Pancreas." It is perhaps not too great praise to say that both in thoroughness of treatment and accurate reasoning, this paper will compare favorably with any work of a similar scope and character ever performed in this country. The paper contains an excellent resume of the meagre literature regarding the pancreas and its diseases. In addition, the author has gathered a wealth of clinical and experimental data, which are carefully incorporated in such a manner as to place our knowledge of the surgical relations of the pancreas on a sure foundation.

Dr. Prince has added a stove-pipe to his device for atmospheric purification, and the cut of last year (plus the pipe), appears among his remarks in the discussion of Everest's

paper on the "Bacteria of Surgical Diseases." A weather-vane might be added to the structure before it reappears next year.

The editor and the publishers are to be congratulated on the elegant typographical appearance of these two volumes.

HANDBOOK OF PRACTICAL MEDICINE. *By* DR. HERMAN EICHHORST, *Professor of Special Pathology and Therapeutics and Director of the University Medical Clinic in Zurich. Vol. iii.: Diseases of the Nerves, Muscles and Skin, with 157 wood engravings; pp. 390. New York:* WILLIAM WOOD & COMPANY. 1886. CHICAGO. W. T. KEENER.

The third volume of Professor Eichhorst's most excellent work upon the Practice of Medicine, is issued by William Wood & Company, as the sixth volume of "Wood's Library" for 1886.

In section seven, "Diseases of the Nervous System" are more fully treated of in this than in any other text-book on practice. The first part is devoted to diseases of the peripheral nerves, part second to diseases of the spinal cord, part third to diseases of the medulla oblongata, part fourth to diseases of the brain, part fifth to diseases of the sympathetic. Diseases of the muscles are crowded into a space of only six pages. Section seven, comprising 62 pages, is alloted to "Diseases of the Skin."

Under the head of Diseases of the Peripheral Nerves, the pathology is very clearly and correctly given; the symptomatology is clearly and concisely stated, and the electrical degenerative reactions so fully explained that they will be easily understood by one who has been puzzled by the descriptions in Erb's and other books. In this section the treatment is

chiefly electrical; medical treatment is not fully enough explained.

Diseases of the spinal cord, brain and meninges are clearly described. Among special diseases we desire to call attention to the excellent manner in which tabes dorsalis, spastic spinal paralysis, progressive spinal muscular atrophy, amyotrophic lateral sclerosis, cerebral hæmorrhage, tumors within the cranial cavity and the diagnostic preliminary remarks on diseases of the brain are given.

Bend's hypertrophy of muscles is too briefly described, and its treatment receives but three lines.

Diseases of the skin are given in a condensed form, with the nomenclature of Kaposi and with that author's treatment. The section is comprehensive enough to meet the requirements of the general practitioner.

The translation is free, giving a smooth English text. The original work has suffered somewhat by the omission of what the translator, perhaps, thought unimportant paragraphs. A serious fault occurs in the repeated omission of the names of authors whose names appear in the original text.

The printing has been carefully done upon good paper, making a handsome volume. The wood cuts are valuable aids to the interpretation of the text, but are not so distinct and clear as in the original. F. B.

HANDBOOK OF THE DISEASES OF THE NERVOUS SYSTEM. *By* JOSEPH P. ROSS, M.D., LL.D. *Large octavo, pp. xx, 723. Philadelphia:* LEA BROTHERS & COMPANY. *Chicago:* A. C. MCCLURG & COMPANY. 1885.

Students, as well as practitioners, will find in this book an excellent compendium of the diseases of the nervous system.

The work is divided into two parts. The first seven chapters, comprising 234 pages, are devoted to the consideration of the anatomy and physiology of the nervous system, together with a short chapter on general treatment. The remaining part is devoted to the special diseases of the nervous system.

Dr. Ross, in his larger work, "Treatise on Diseases of the Nervous System," has shown himself to be a thorough master and teacher of neurology. The present work fully bears out the high estimate one is inclined to place on any work bearing his name. The attempt to formulate the chief facts in neurology, from the simplest expression of nervous function to the highest psychical manifestations of which the human brain is capable, and to do this within the compass of an ordinary handbook, is a task worthy of the keenest intellect. The work of Dr. Ross, as a whole, marks a distinct step forward in neurological literature. He has to a large extent abandoned some of the older theories, and he approaches the subject purely from the standpoint of the evolutionist. This is clearly outlined in his classification, and the treatment of the different subjects.

The work is concisely and clearly written. Special mention is due the publishers for the handsome manner in which the work is issued. H. N. M.

ESSENTIALS OF THE PHYSICAL DIAGNOSIS OF THORACIC DISEASES. *By* E. DARWIN HUDSON, JR., A.M., M.D., *Professor of General Medicine and Diseases of the Chest in the New York Polyclinic, Physician to Bellevue and St. Elizabeth Hospitals. Pp. 63. New York:* STILES & CASH.

This manual was prepared for the use of Professor Hudson's students at the New York Polyclinic, and is of great

assistance to them as a guide to his clinical lectures. It can be of but little value to others, because no one can do justice to so vast a subject within so small a space as the author devotes to it. It contains nothing but what is more satisfactorily explained in the larger text-books.

A careless error occurs on page six, where the apex of the right ventricle is placed in the right mammary region.

"Determining the situation and size of surrounding organs," is given as a *method* of physical diagnosis.

"Bronchial fremitus, produced by bronchitis;" "pitch refers to length of sound-wave;" "over gases pitch is very low, indeed;" "it takes four times as long for the blood to pass through the systematic as through the pulmonary circulation;" "the crepitant *râle* is heard only in two diseases, viz: croupous pneumonia and œdema of lungs," are statements partly or wholly erroneous.

FRANK BILLINGS.

GUY'S HOSPITAL REPORTS. *By* FREDERICK TAYLOR, M.D., *and* N. DAVIES-COLLEY, M.A., M.C. *Vol. XLIII, 1885–6, pp. 514. London:* J. & A. CHURCHILL, *New Burlington Street, 1886.*

This volume contains numerous plates, woodcuts and other illustrations. The record of the observations of special importance occurring during the year in so large a hospital as Guy's, cannot fail to be one of great interest, both to general and special practitioners of medicine.

The article on "The Pathology of Extravasation of Urine and of Sacculation of the Urethra and Bladder" condemns as incorrect some of the statements on the subject made by Sir Henry Thompson in Holmes' System of Surgery, and

the opinions advanced are supported by illustrative cases, the post mortem conditions of which are carefully described. The article on "Uterine Dilatation" supports the views expressed in the last edition of Barnes' "System of Obstetric Medicine and Surgery," and presents many cases in illustration. The writer of the article, "On the Changes in the Vascular System in Bright's Disease," strongly favors "the view that a simple nephritis is a competent cause of these special morbid changes." Many of the other articles in the volume are as interesting as those referred to, but the limits of this notice prevent enumeration or special mention of them.

E. W.

THIRTEENTH ANNUAL REPORT OF THE SECRETARY OF THE STATE BOARD OF HEALTH OF THE STATE OF MICHIGAN, *for the year ending September, 1885; pp. xxxviii and 293.*

In this volume are included the reports by Dr. George M. Sternberg, United States Army, and Professor V. C. Vaughan, upon the poisonous cheese which caused so much sickness in Michigan during the year from August, 1883, to August, 1884, a full account of the history of which is given in the previous report of the State Board of Health. Dr. Sternberg thinks that the poisonous quality in the cheese is due to ptomaines, possibly developed by the presence of a non-pathogenetic micrococcus, which he found in the samples furnished him.

Professor Vaughan found a substance which forms in needle-shaped crystals, and for which he proposes the name tyrotoxicon. This substance produces symptoms which closely resemble those caused by the poisonous cheese, and Professor Vaughan thinks it is "not of bacterial origin."

This volume is largely given up to meteorological conditions, and communicable diseases in Michigan during the year. E. W.

INDEX CATALOGUE OF THE LIBRARY OF THE SURGEON GENERAL'S OFFICE, U. S. ARMY. *Vol. VII. Insignares, Leghorn. Pp.* [*100*] *and 959.*

In his letter to the Surgeon-General which accompanies this volume, the compiler (Dr. J. S. Billings) says: "This volume includes 14,688 author-titles, representing 5,987 volumes and 12,372 pamphlets. It also includes 6,371 subject-titles of separate books and pamphlets and 34,903 titles of articles in periodicals." It also includes a complete alphabetical list of abbreviations of titles of medical periodicals employed in the index-catalogue.

It is impossible in a notice of this volume to convey an adequate idea, either of the magnitude or value of the work which it represents. It is in keeping with the uniform excellence and completeness of the other volumes of the series, which have been issued from the Surgeon-General's office. This index-catalogue has become a necessity in looking up the literature of any given medical subject, and it is very highly appreciated by those who have learned to know its value.

BOOKS RECEIVED.

The Science and Art of Obstetrics. By Theophilus Parvin, M.D., L.L.D

Clinical Manual for the Study of Medical Cases. By James Finlayson, M.D.

Wear and Tear, or Hints for the Overworked. By S. Weir Mitchell, M.D., L.L.D.

On Diseases of the Lungs and Pleura, including Consumption. By R. Douglas Powell, M.D.

Hand-book of Practical Medicine. Vol. IV. Diseases of the Blood, and Nutrition and Infective Diseases. By Dr. Hermann Eichhorst.

A Clinical Manual of Diseases of the Ear. By Laurence Turnbull, M.D., Ph.G.

Diseases of the Joints. By Howard Marsh, F.R.C.S.

The Principles and Practice of Operative Surgery. By Stephen Smith A.M., M.D.

A Text-book on Surgery—General, Operative and Mechanical. By John A. Wyeth, M.D.

Transactions of the Association of American Physicians. First session.

Léçons sur les Maladies du Système Nerveux, faites á la Salpétrière, par J. M. Charcot.

Collected Papers, Harvard Medical School, 1880–1886.

A Practical Treatise on Obstetrics. By Dr. A. Charpentier. Translated by Egbert H. Grandin, M.D.

Hand-book of Materia Medica, Pharmacy and Therapeutics, etc. By Samuel O. L. Potter, A.M., M.D.

Diseases of Women. A Hand-book for Physicians and Students. By Dr. F. Winckel. Translated under the supervision of Theophilus Parvin, M.D.

On Fevers: their History, Etiology, Diagnosis and Treatment. By Alexander Collie, M.D. (Aberd.)

The Year-book of Treatment for 1886.

Refraction of the Eye. Its Diagnosis and Correction of Its Errors. By A. Stanford Morton, M.B., F.R.C.S. (Ed.)

REPORTS AND PAMPHLETS RECEIVED.

A Contribution to the Climatological Study of Phthisis in Pennsylvania. *By William Pepper, M.D., LL.D.*

Report of the Commission of the Southern Illinois Penitentiary, at Chester.

Report of the Board of Trustees of the Eastern Michigan Asylum, at Pontiac.

Researches into the Etiology of Dengue. *By J. W. McLaughlin, M.D.*

The Antiseptic Treatment of Summer Diarrhœa. *By L. Emmett Holt, A.M., M.D.*

Periostitis. *By N. Senn, M.D.*

Practical Observations on the Gonococcus and Roux's Method of Determining its Identity. *By Charles W. Allen, M.D.*

On a Mode of Determining, with the Prisoptometer, the Degree of Latent Hypermetropia without Mydriatics. *By H. Culbertson, M.D.*

Electrolysis in Gynæcology. *By Franklin H. Martin, M.D.*

Ueber Wirkung, therapeutischen Werth und Gebrauch des neuen Karlsbader Quellsalzes, nebst dessen Beziehung zum Karlsbader Thermalwasser. *Von Dr. W. Jaworski.*

Mittheilungen ueber das Ichthyol. *Von Dr. Ackermann, Weimar.*

Mittheilungen ueber Ichthyol. *Von Prof. Dr. Baumann, in Freiburg und Geheimrath von Nussbaum, in München.*

Notiz ueber das Ichthyol. *Von Prof. Dr. Ernst Schweninger.*

Ueber den Einfluss der Ichthyolpräparate auf den Stoffwechsel. *Von Prof. Dr. Zuelzer.*

Ichthyol und Resorein. *Von Dr. P. G. Unna.*

Ueber Erysipelas. *Von Geheimrath von Nussbaum.*

Sterility. *By Wm. H. Wathen, M.D.*

Report on the Diseases of the Rectum. *By Joseph M. Mathews, M.D.*

President's Address, Tenth Annual Meeting of the Detroit Medical and Library Association. *By C. J. Lundy, A.M., M.D.*

Report of the Surgeon-General of the Army to the Secretary of War, for the year ending June 30th, 1886.

Annual Report of the Supervising Surgeon-General of the Marine Hospital Service of the United States, for the fiscal year 1886.

An Epitome of the Newer Materia Medica Preparations. *By Parke, Davis & Company.*

Transactions of the American Ophthalmological Society. Twenty-second Annual Meeting, 1886.

An Address on the Relation of Quarantine to Shipping Interests. *By Joseph Holt, M.D.*

A Case of Pyelitis of Nineteen Years' Standing, caused by a Renal Calculus; Recovery. *By Augustus V. Park, M.D.*

A Case of Ante-Partum Hemorrhage at Term. Recovery. *By Augustus V. Park, M.D.*

The Relative Influence of Maternal and Wet-Nursing on Mother and Child. *By Joseph Edeil Winters, M.D.*

Laryngology and its Cognate Branches in America, and the Simple and Most Efficient Treatment of Diphtheria. *By W. H. Daly, M.D.*

On the Transmission of Syphilis, and on the Earliest Case of Whooping-Cough. *By Robert J. Lee, M.D., F.R.C.P.*

Three Cases of Fracture of the Skull. *By Oscar J. Coskery, M.D.*

The Curette as a Diagnostic and Therapeutic Agent in Gynæcology and Obstetrics. *By B. Bernard Browne, M.D.*

The Human Color-Sense considered as the Organic Responseto Natural Stimuli. *By L. Webster Fox, M.D., and George M. Gould, A.B.*

Notes on Hospital Practice in Vienna. *By Frank Billings, M.D.*

The Mechanism of Indirect Fracture of the Skull. *By Charles W Dulles, M.D.*

Antisepsis in Ovariotomy and Battey's Operation. *By Robert W. Batley, M.D.*

Common Errors, Theoretical and Practical, Relating to Insanity. *By Orpheus Everts, M.D.*

Meconeuropathia. *By C. H. Hughes, M.D.*

Abstract of Proceedings of the Michigan State Board of Health, January 11, 1887.

Zur Verwendung des Sublimats bei Irrigationen in der Geburtshilfe. *Von Professor Dr. Gustav Braun.*

Zur Rückwärtslagerung des graviden Uterus. *Von Professor Dr. Gustav Braun.*

Separat-Abdruck aus der Zeitschrift für Ohrenheilkunde. *Von H Knapp und H. Moos.*

Parallelo tra il Passato ed il Presente dell'Atmiatria. *Dal Professore A. Jacobelli.*

THE PUBLISHERS' DRAWER.

CREAM OF THE MAILS AND EXCHANGES.

THE WOMAN'S MEDICAL COLLEGE of New York wants $100,000 for a new building.

IT IS RUMORED that Rush Medical College will build a sanitarium on Lookout Mountain for the treatment of consumptives.

THE *St. Louis Medical and Surgical Journal* is authority for the statement that the Post-Graduate School of that city has reduced its fees from $100 to $30.

A NEW BUILDING for the Medical Department of the Western Reserve University of Ohio has been erected for that institution, and presented to it by Mr. John L. Woods, of Cleveland.

THE APPROPRIATION BY CONGRESS of ten thousand dollars toward the conduct of the Ninth International Medical Congress will cover but a small portion of its expenses, but it is thought there will be ample means provided from private sources.

ON AND AFTER APRIL 1, 1887, DR. MAY'S QUIZ-CLASSES, preparatory for the United States Army, Navy and Marine Hospital, General Hospital and Civil Service Medical Examinations, will be conducted conjointly by himself and by Dr. Charles F. Mason, Assistant Surgeon United States Army. This addition has become desirable owing to the great success of the classes, as evidenced by a membership in all classes of over one hundred men during the last three years, with less than five per cent. of failures. The classes will be conducted as heretofore, and the course of instruction will be

made still more advantageous by additional facilities, such as, practical instruction and attention to general educational branches. Quizzing by mail. For particulars address, Dr. C. H. May, 202 East 58th St., New York, N. Y.

THE ANNUAL INCREASE OF MEDICAL MEN in this country is over 5½ per cent., while the annual increase of population is less than 2 per cent. Certain statistics of the profession in Illinois show that between the years 1880 and 1886, 7 per cent. of the physicians left the profession and engaged in other pursuits.

JUDGE C. C. FOSTER, of Mecosta county, Michigan, in the case of "State of Michigan v. Vanimmans," decided, when a physician refused to testify on the ground that the evidence would be expert testimony, "After many years' study and observation, I decide that a physician's knowledge is his stock in trade, his capital, and we have no more right to take it without extra compensation than we have to take provisions from a grocery, without pay, to feed the jury. The court rules that the witness is not compelled to testify."

THE OLD ADAGE, says the *Medical Register*, "that 'there is plenty of room at the top,' is cold comfort when we find that in a total of 51,155,783 inhabitants in the United States there are 85,671 physicians. This makes one doctor to every 585 persons, which, as every one who is at all conversant with the facts of the case knows, is entirely too small an average to support a doctor, leaving the family out of the question altogether. In this eighty-five odd thousand physicians there are plenty who have the ability to succeed and make excellent and brilliant practitioners, but who will never get a chance to get near the "top" on account of the crowding, and even if a particularly fortunate one does get a glimpse of this promised land, it is when he is bald, old and gray; it is then too late, and he drops out of life content with only a glimpse of the coveted bourne."

DR. THOMAS LITTLE, OF SPIRIT LAKE, IOWA, in comparing papine with other forms of opium, says: "I have been using papine for the past two months. It meets the requirements of a class in which opiates are indicated, but in which the 'remedy is worse than the disease.' One case in particular has given me a great deal of trouble for years. I have tried opium in every form, and many other narcotics, alone and in combination; but constipation, nausea and nervous prostration have been the invariable results. Some two months since I obtained some papine and commenced on this case with the happiest effect; no nausea, no constipation, no prostration. I have been prescribing it in my practice since with the greatest satisfaction to myself and my patients."

THE COST OF INFANT FOODS.

One of the greatest objections that have been made to the use of the various prepared infant foods upon the market has been their high cost. As it will be a matter of interest to the entire profession to know the comparative costs of the various foods, a careful computation of the cost of each class has been made, prepared according to the directions given for infants.

The so-called milk foods or powders are found to be the highest, averaging to cost, when prepared ready for use, about nine cents per pint; next in cost is a class called Liebig's Food, which average six cents or more a pint; next in a class of farinaceous foods, which cost nearly as much as the Liebig Foods. Below all these is Lactated Food, which costs but four cents per pint, making it the most economical food the profession can use. A dollar package of Lactated Food will give an infant one hundred and fifty meals, or sufficient to last about four weeks.

SUBSTITUTION BY DRUGGISTS.

There was a time when there was no intermediary between the physician and his patient—when every doctor dispensed his own medicines. In cities and closely settled communities this practice gradually became burdensome, and was relegated to a special class, the druggist or pharmacist; but the old-time custom is still adhered to very largely among rural or country physicians.

When the "patent medicine man" made his appearance, this agent or intermediary of the physician promptly assumed the same position towards the intruder, and united to his honorable calling of pharmacist the less honest but probably more profitable one of vender of nostrums. This anomaly would have adjusted itself in time, and, indeed, has already partially done so, but the druggist has been deflected from the straight and narrow path. Aiding a fraud, what more natural than that he should, in certain instances, become imbued with the spirit of fraud? Seeing the gullibility of the public, and knowing the profits accruing from the trade in nostrums, the less honest and more avaricious members of the guild were henceforth but ill-content with the comparatively meager profits of their honorable and legitimate calling. The outgrowth of this spirit was the crying evil of substitution—the replacement of high-priced ingredients in prescriptions by others less costly and totally inefficacious. There is scarcely a physician in our cities and towns who has not, at some time, had good reason to complain of this evil.

Of late the rascally practice has taken a wider range, in a direction made possible by the legitimate advances of the art of pharmacy. We refer to substitution as applied to those products of chemical and pharmaceutical skill, aided by abundant capital, known as "proprietary preparations"—preparations, the nature and ingredients of which are made known to the medical profession, for whose use alone they are manu-

factured, and which are by no means to be classed or confounded with "patent medicines." Many of these proprietary medicines are of great value commercially, and as a result they are composed of the purest drugs, compounded with great skill. A certain proportion of the medical profession (and some of them men of wide and honorable reputations) have found these preparations good and useful, and their exhibition attended by most satisfactory results; and hence have prescribed them largely, *not the least potent reason for this fact being the feeling of security against substitution induced by the careful and often costly methods of package adopted by the manufacturing chemists.* But as "love laughs at locksmiths" so laughs the substituting druggist at seals and wrappers of unique design, at signatures and brands; and the manufacturing chemist who spends thousands and hundreds of thousands of dollars in keeping up the standard of his preparations, finds himself suddenly accused of allowing them to deteriorate, or possibly of sophisticating them for greater gain.

Without referring to them by name, we may say that very recently a number of the great manufacturing houses have found themselves in this unpleasant position; and in every instance where investigation was possible the fact was disclosed that the apparent deterioration was due to the dishonesty of the retail druggist or prescriptionist who had substituted his own worthless compounds for those ordered by the physician.

Such substitution is not simply dishonest: it is felonious, and displays the same reckless disregard for life that marks the burglar or highwayman who is prepared to take life if it stands in the way of his plunder. The man who does it does not simply filch a few cents from the pocket of his customer (frequently poor and needy), nor does he merely jeopardize the reputation of a physician, but he puts in peril the life of the customer who trusts him.

The honest members of an honorable profession—and fortunately they are largely in the majority—the reputable pharma-

cists, owe it to themselves to expose these vultures and drive them from the trade. In doing so they should have the aid and countenance of every physician. In the meantime, let every physician not content himself with shunning the shops of those whom he detects in the nefarious habit of substitution, but boldly denounce them, and warn his patients against carrying prescriptions to them. Concerted action of this sort will soon purge the trade of the offending members.—*Editorial, St. Louis Medical and Surgical Journal, March, 1887.*